

**Appendix 1: Materials used by Messrs. Fallick and Faberman, and Ms. Şahin**

**Class II FOMC – Restricted (FR)**

*Material for*

**FOMC Briefing on Structural Unemployment**

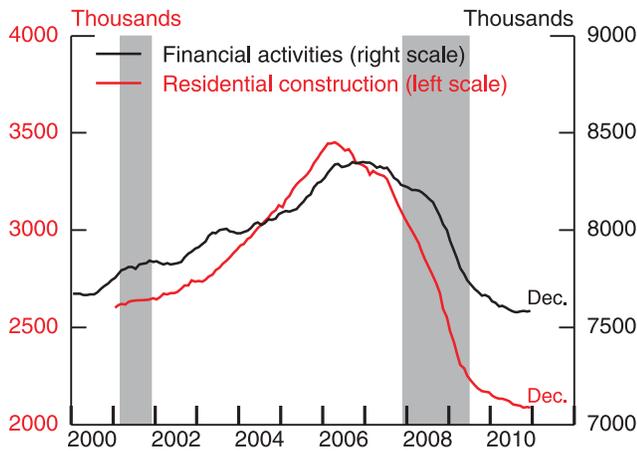
**Bruce Fallick, Jason Faberman, and Aysegul Sahin**  
**January 25, 2011**

### Causes for Concern

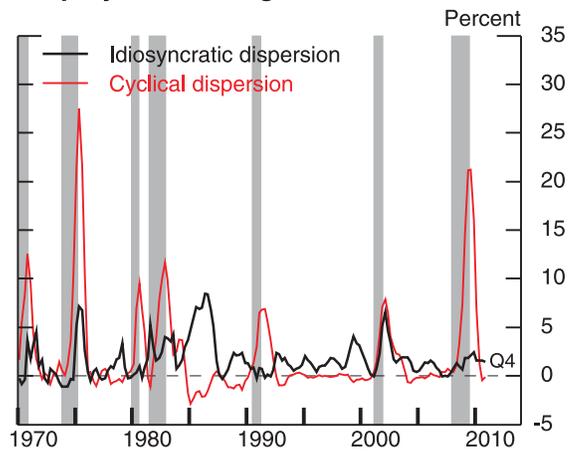
#### Categories of Unemployment

- Structural or frictional unemployment reflects difficulties in matching available workers to available jobs.
  - Demographics.
  - The technology of job search and worker screening.
  - Imbalances between the characteristics or locations of potential workers and vacant jobs.
- Cyclical unemployment is due to a shortfall in aggregate economic activity.
- Inflation is most sensitive to cyclical unemployment.
- The line between these categories is often blurry.

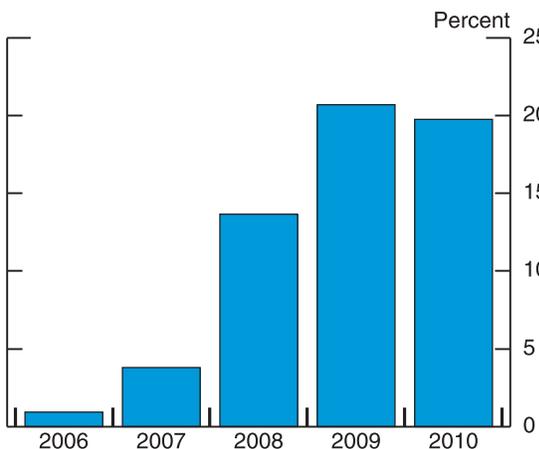
#### Payroll Employment



#### Dispersion in Major Industry Employment Change

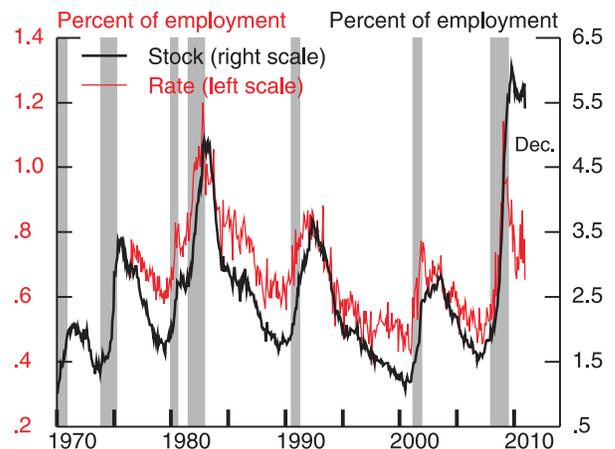


#### Percent of Mortgages with Negative Equity



Note. Negative equity percentage likely understated because of incomplete data on junior liens.

#### Permanent Job Losers

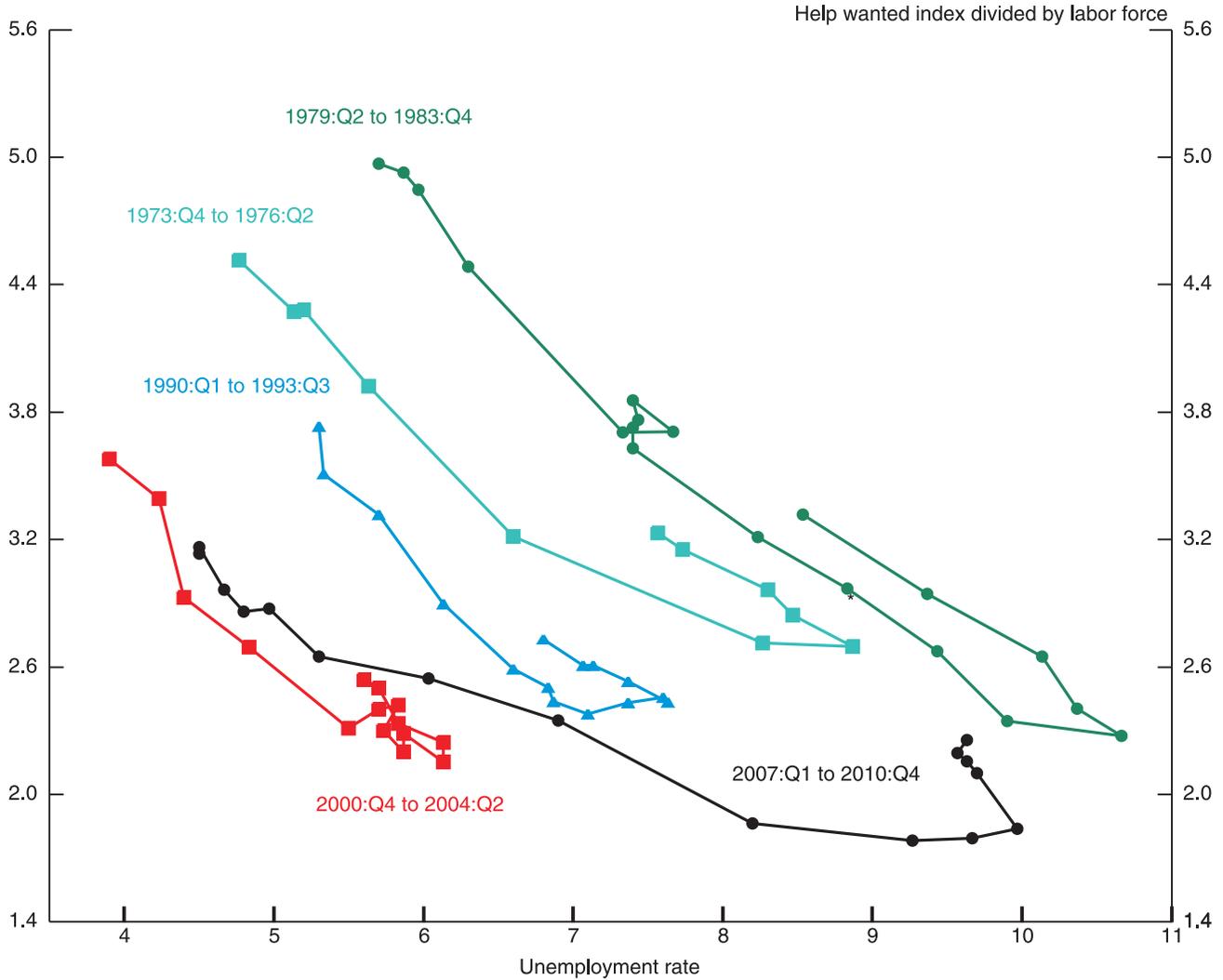


Note. Rate includes job losers not on layoff, unemployed less than five weeks. Stock includes all job losers not on layoff.

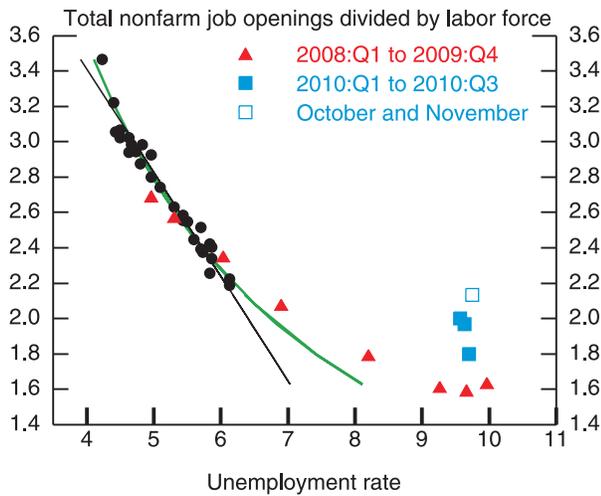
Exhibit 2  
The Beveridge Curve

1-25-11

**Using Staff Composite Help Wanted Index**  
1973:Q4 to 2010:Q4



**Using JOLTS Job Openings**  
2001:Q1 to 2010:Q4

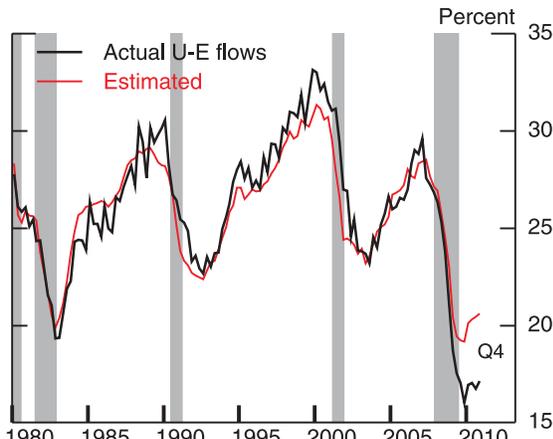


**Issues in Interpretation**

- Deviation is not a measure of an increase in structural unemployment.
- The shape of the curve.
- Increases in layoffs that occur during recessions.
- Counter-clockwise loops.

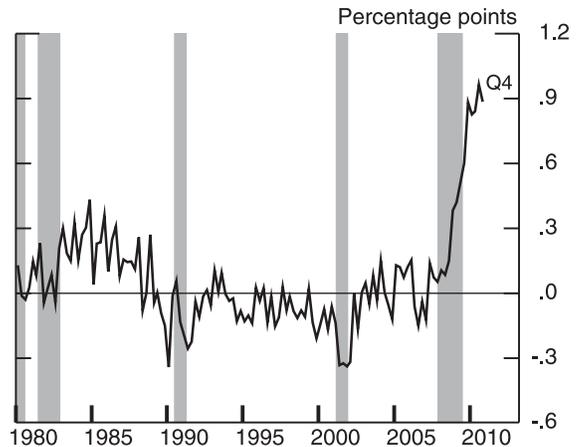
### Models Informing Tealbook Assumptions

#### Job Matching



Note. Actual and estimated monthly flow rates from unemployment to employment. Estimated values are from a regression of the U-E flow rates on the log of the ratio of vacancies to unemployment.

#### Contribution of Matching Efficiency to the Unemployment Rate

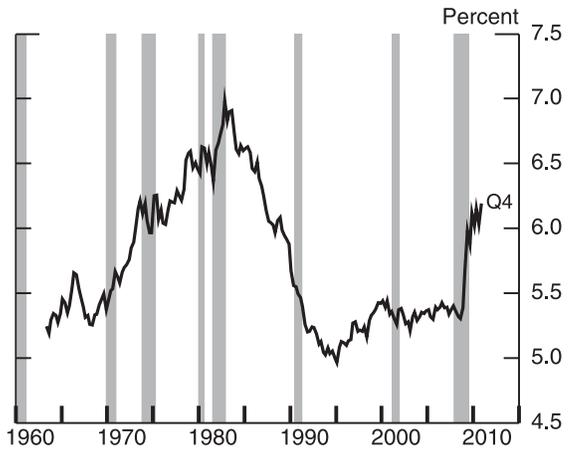


Note. Average contribution during 1980-2007 is normalized to zero.

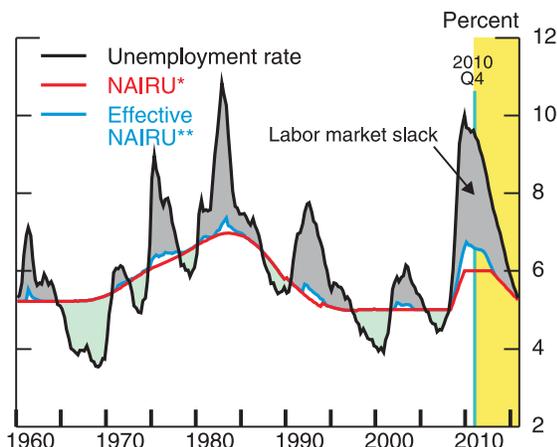
#### An Unobserved Components Model

- The model treats the NAIRU and other trends as unobserved components.
- Related through such macroeconomic relationships as the Phillips Curve and Okun's Law.
- Variant allows for the possibility that the Phillips curve flattened in the mid-1980s.
- Also allows the NAIRU to be more variable than in previous episodes.

#### Model NAIRU

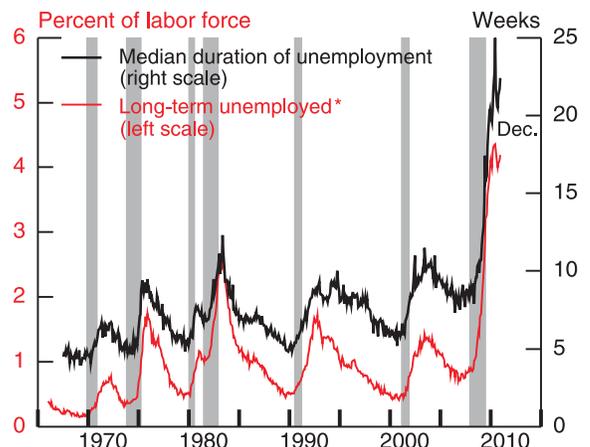


#### Tealbook NAIRU



\*Staff estimate.  
\*\*Includes emergency unemployment compensation and state-federal extended benefits programs.

#### Duration of Unemployment



\*Unemployed for more than 26 weeks.

Exhibit 4

**Theoretical Motivation**

**The Matching Function**

- $H_t$  = total hires (or matches)
- $V_t$  = total vacancies
- $U_t$  = total unemployment
- $\mu_t$  = “matching efficiency” parameter

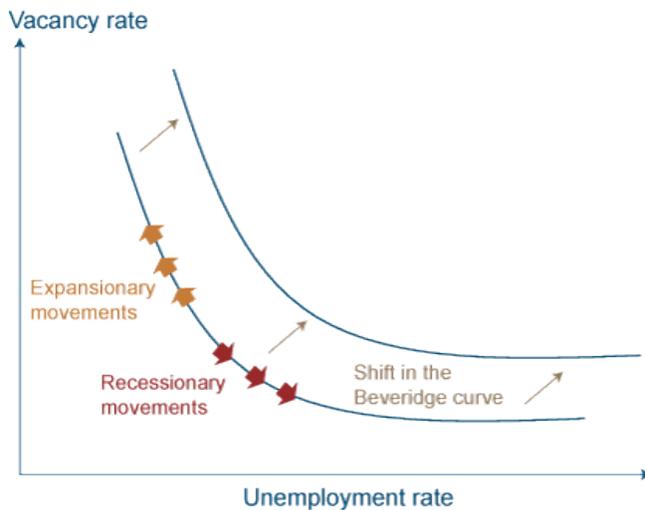
$$H_t = \mu_t V_t^{1-\alpha} U_t^\alpha$$

**Matching Efficiency**

- Lower efficiency implies fewer hires for a given  $U_t, V_t$
- Decline in efficiency shifts Beveridge curve out
- Efficiency parameter can change because of structural or cyclical factors (i.e., any changes not captured by  $U_t$  or  $V_t$ )

**Shifts and Movements in the Beveridge Curve**

**Beveridge Curve**



**Things that shift the Beveridge curve**

- Changes in matching efficiency
- Changes in layoff, separation rates
- “Looping” to new equilibrium

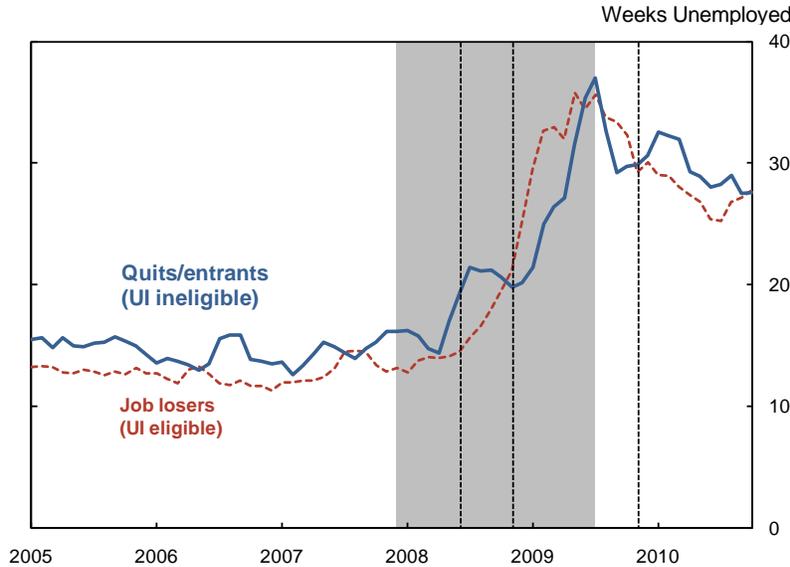
**Things that affect measured matching efficiency**

- Mismatch
- Behavior of quitting workers
- Search efforts of workers, firms

Exhibit 5

Extended Unemployment Insurance Benefits

Unemployment Duration by Reason for Unemployment



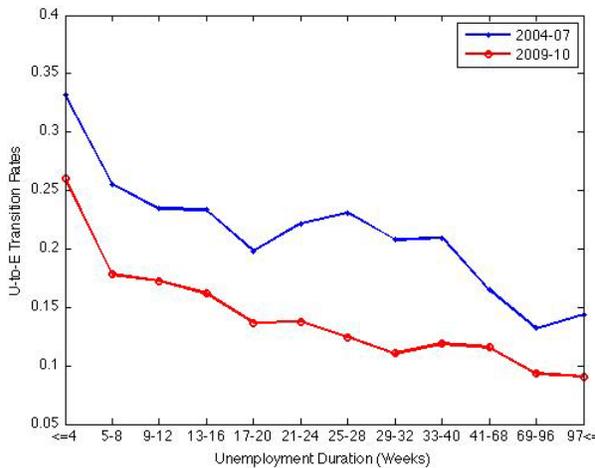
**Extended UI Benefits**

- Job loser’s behavior: + 0.8% pts to  $U_t$
- Transitions out of unemployment: + 0.9 to 1.7% pts to  $U_t$
- Preferred estimate across studies: about +0.8% pts to  $U_t$

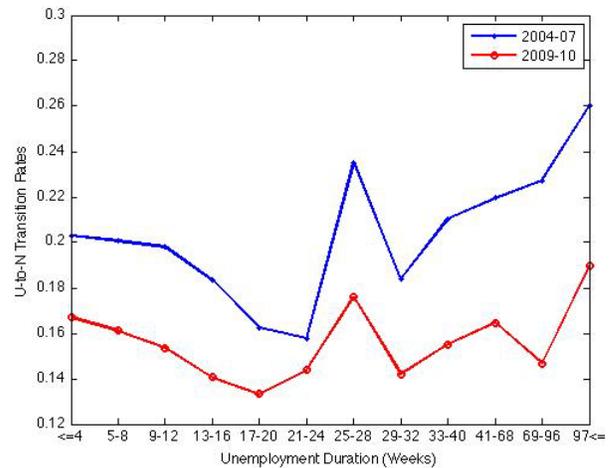
Note: Through October, 2010, three-month moving average. From Daly et al. (2011), using CPS data. Dashed vertical lines indicate effective dates for extensions of maximum UI duration.

Unemployment Transition Rates by Unemployment Duration

Transitions from Unemployment to Employment



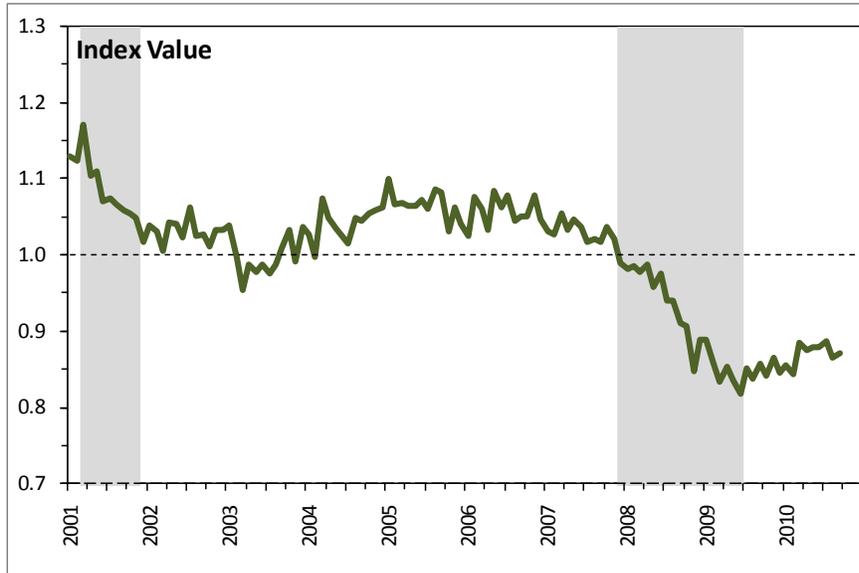
Transitions from Unemployment to Out of the Labor Force



Note: From Fujita (2010), using CPS data.

Exhibit 6  
**Employer Recruiting Intensity**

**Recruiting Intensity per Vacancy over Time**

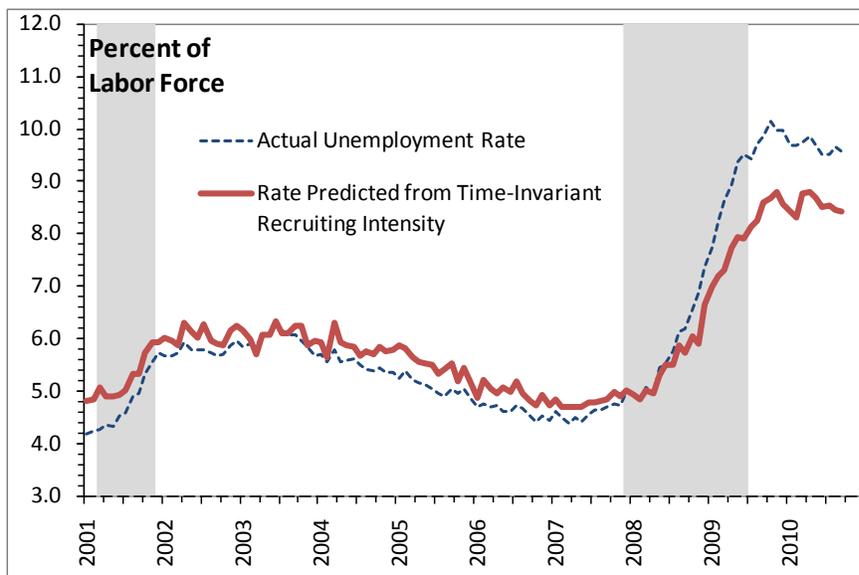


**Recruiting Intensity**

- Low recruiting intensity accounts for 1.4% of  $U_t$
- Rise could be structural or cyclical

Note: From Davis, Faberman, and Haltiwanger (2010), using JOLTS data. JOLTS data begin in December 2000. Scaled so that average value is equal to one over the sample period.

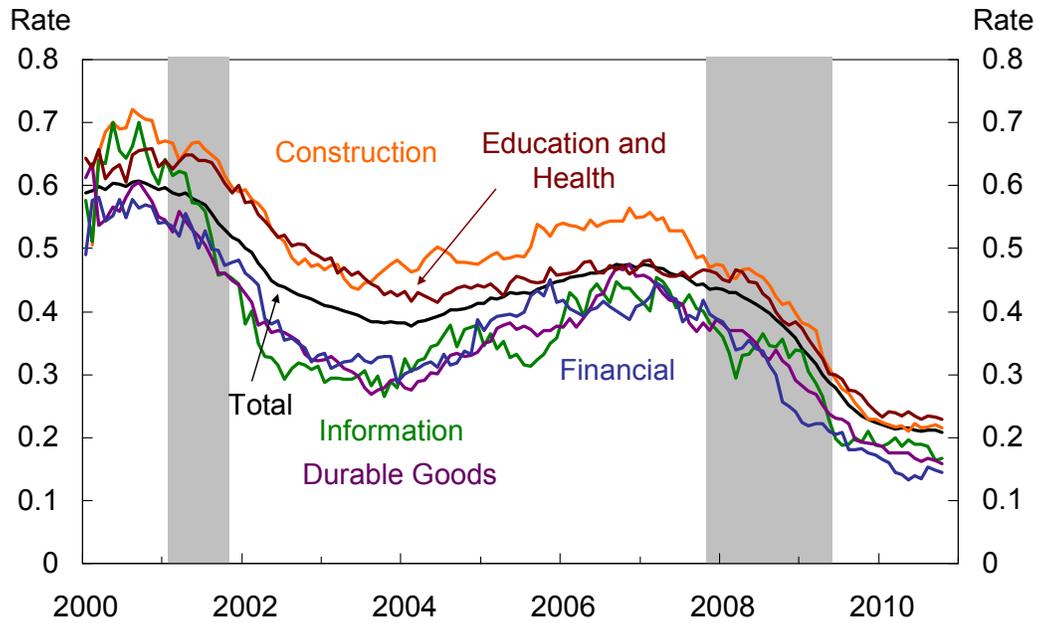
**Actual vs. Counterfactual Unemployment Rate, Holding Recruiting Intensity Constant**



Note: From Davis, Faberman, and Haltiwanger (2010), using JOLTS and CPS data.

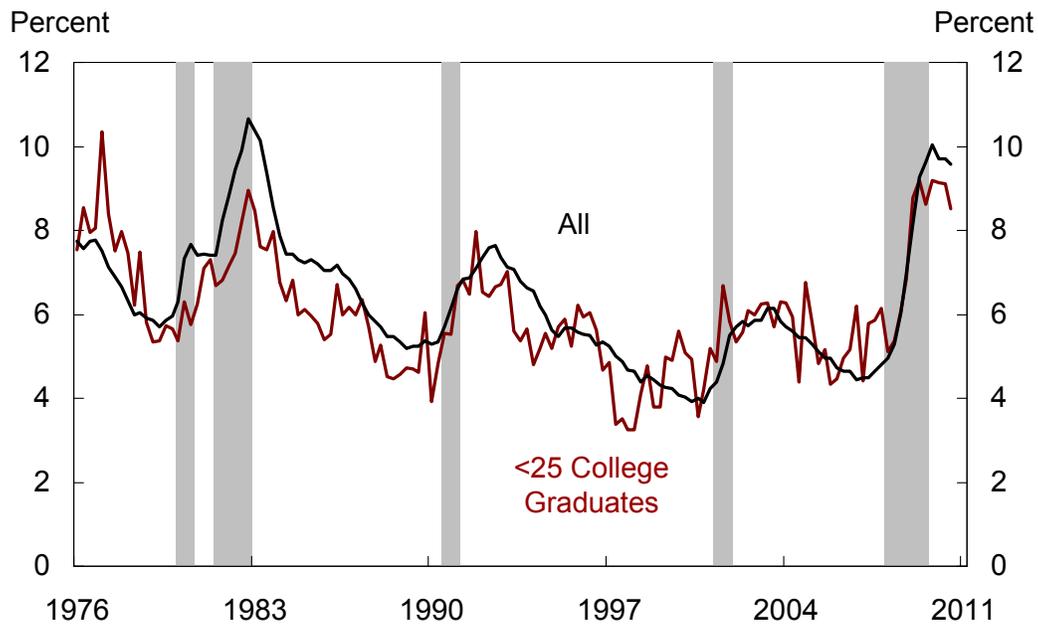
### Exhibit 7 General Measures of Mismatch

#### Unemployment Outflow Rates by Industry



Note: Elsby, Hobijn, Şahin (2010), CPS. Series 12-Month Moving Average.

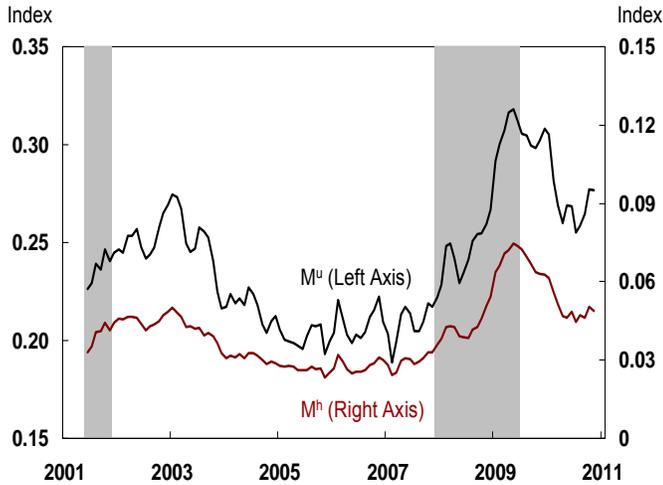
#### Unemployment Rate of Recent College Graduates



Note: Aaronson, Barlevy, Mazumder (2011), CPS.

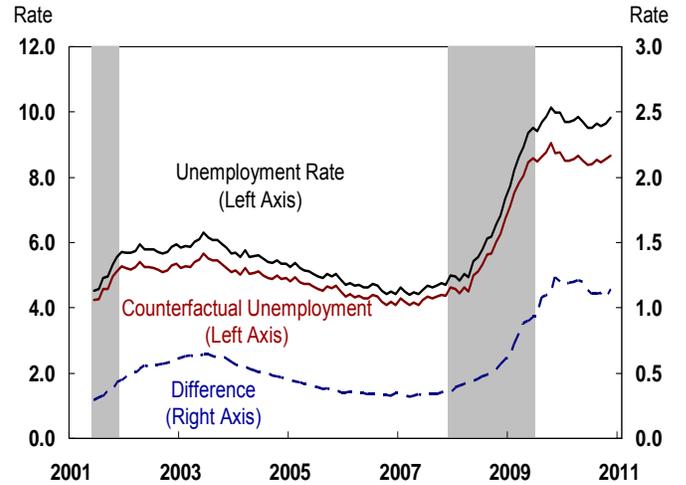
### Exhibit 8 Skill Mismatch

Mismatch Indices by Industry



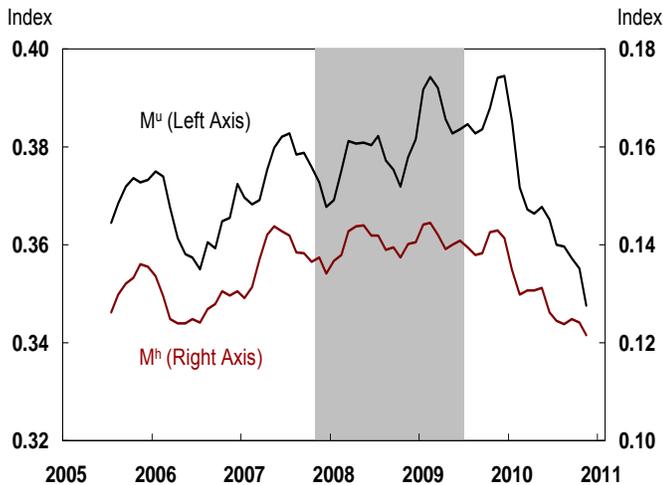
Note: Şahin, Song, Topa, Violante (2010), JOLTS, CPS. Series 3-Month Moving Average.

Actual and Counterfactual Unemployment (Industry)



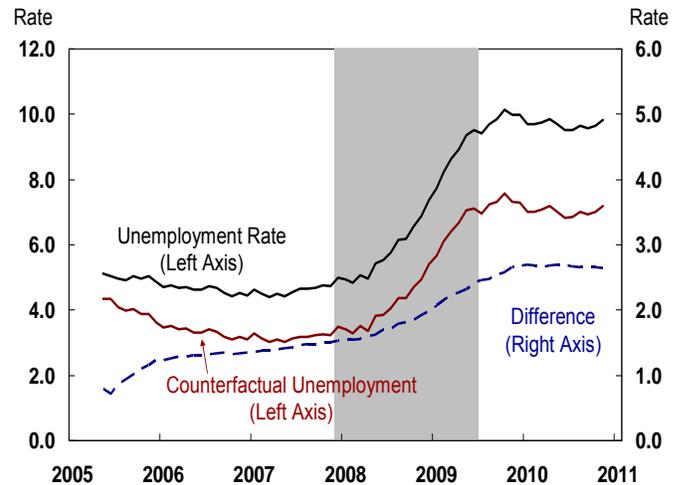
Note: Şahin, Song, Topa, Violante (2010), JOLTS, CPS.

Mismatch Indices by Occupation



Note: Şahin, Song, Topa, Violante (2010), The Conference Board Help Wanted OnLine Data Series, CPS. Series 3-Month Moving Average.

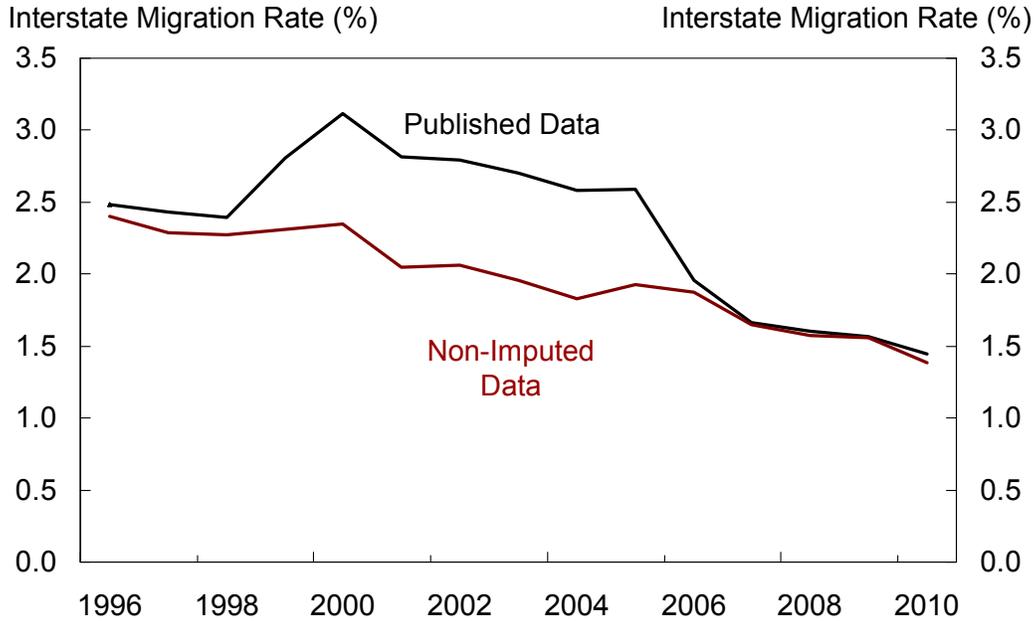
Actual and Counterfactual Unemployment (Occupation)



Note: Şahin, Song, Topa, Violante (2010), The Conference Board Help Wanted OnLine Data Series, CPS.

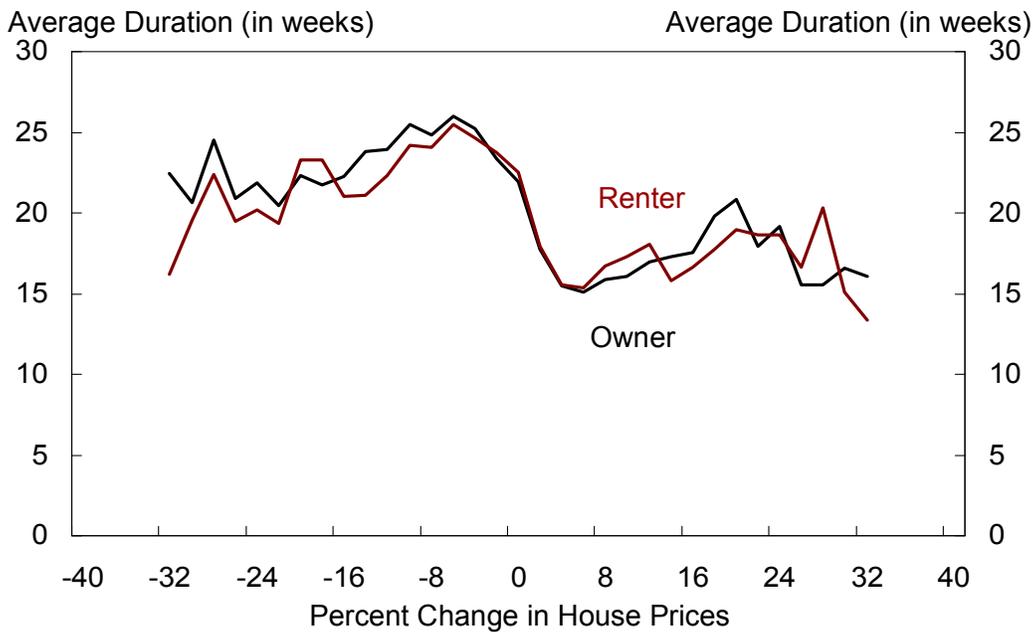
### Exhibit 9 House Lock and Geographic Mismatch

#### Rates of Migration between States



Note: Kaplan and Schulhofer-Wohl (2010), CPS.

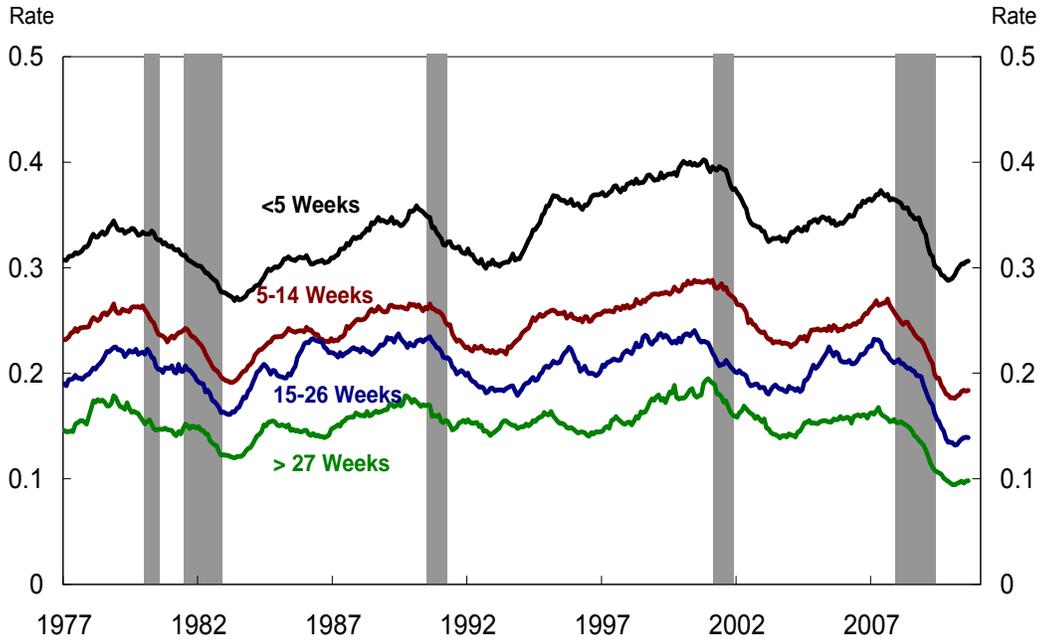
#### Average Unemployment Duration by 12-Month Change in State-Level House Price



Note: Foote and Ryan (2011), CPS, FHFA.

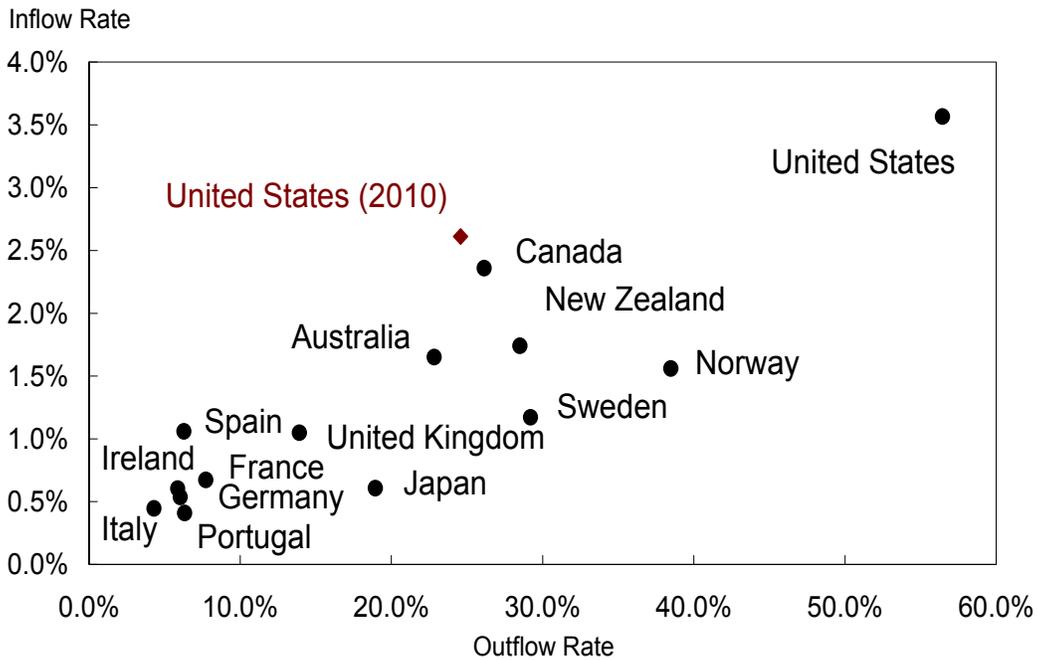
Exhibit 10  
Long-term Unemployment and Hysteresis

Unemployment-to-Employment Outflow Rates by Unemployment Duration



Note: CPS. Series 12-Month Moving Average.

Unemployment Inflow and Outflow Rates by OECD Countries



Note: Elsby, Hobijn, Şahin (2009), OECD.

Exhibit 11  
Summary

- The following factors have had a measurable effect on the unemployment rate during 2007-2010:

	<u>Estimated effect on U</u>
○ Extended unemployment insurance benefits:	+ 0.4 to 1.7 percentage points (preferred estimate around + 0.8 percentage point)
○ Decline in the recruiting intensity of firms:	+ 1.4 percentage points
○ Skill mismatch across industries:	+ 0.8 percentage point
○ Skill mismatch across occupations:	+ 1.4 percentage points

Note: These effects are not additive.

- The following factors have had no measurable effect on the unemployment rate during 2007-2010:
  - House lock
  - Geographic mismatch
- Problems facing the U.S. labor market are unlikely to be as severe as the European-style hysteresis problem of the 1980s.

Exhibit 12 - Last Exhibit

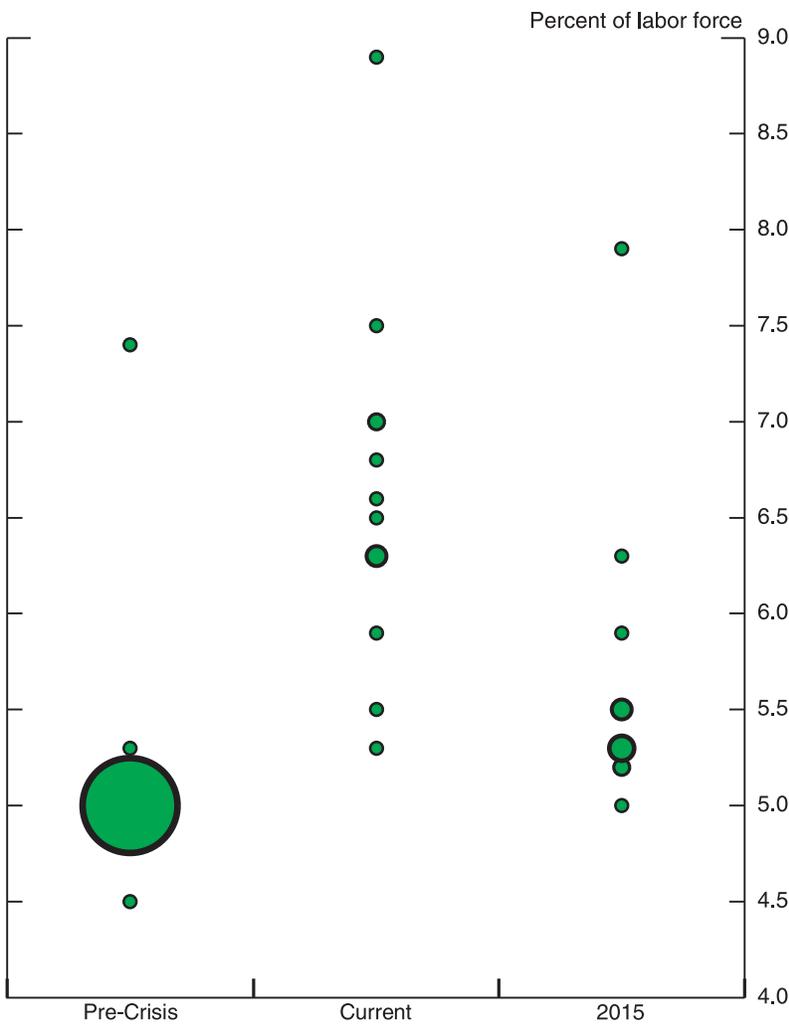
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### Board and Reserve Bank Staff Estimates

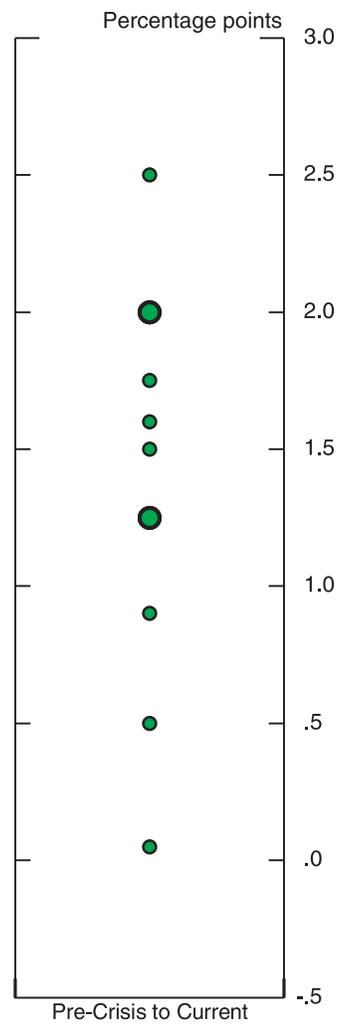
	<i>Tealbook</i>	<i>Boston</i>	<i>New York</i>	<i>Philadelphia</i>	<i>Cleveland</i>	<i>Richmond</i>	<i>Atlanta</i>	<i>Chicago</i>	<i>St. Louis</i>	<i>Minneapolis</i>	<i>Kansas City</i>	<i>Dallas</i>	<i>San Francisco</i>
Pre-Crisis	5.0	5.0	5.0	5.0	5.0	4.5	5.0	5.0	7.4	5.0	5.0	5.25	5.0
Current	6.6	6.25	6.25	6.75	5.9	6.5	7.0	7.0	8.9	7.5	5.5	5.3	6.25
Increase	1.6	1.25	1.25	1.75	.9	2.0	2.0	2.0	1.5	2.5	.5	.05	1.25
2015*	5.3	5.3	5.0	5.25	5.9	6.3	5.5	5.2	7.9	5.5	5.5	5.2	5.25

\*St. Louis estimate is for 2013.

#### Distribution of Estimates



#### Estimated Increase



**Appendix 2: Materials used by Mr. Sack**

Class II FOMC - Restricted FR

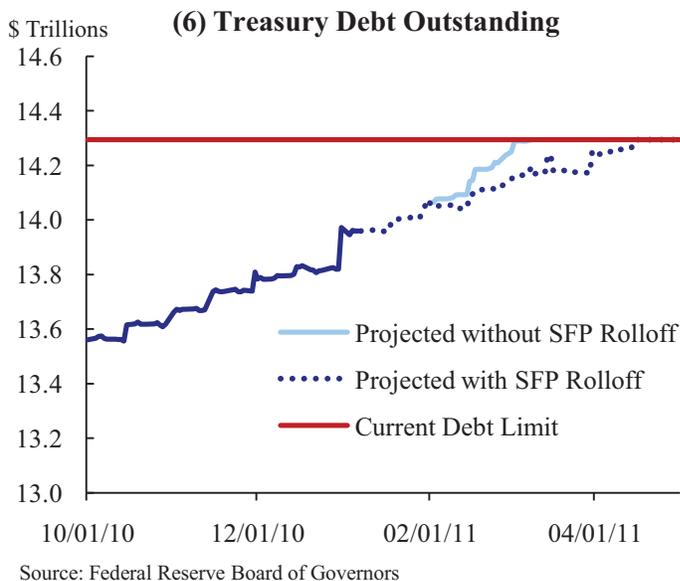
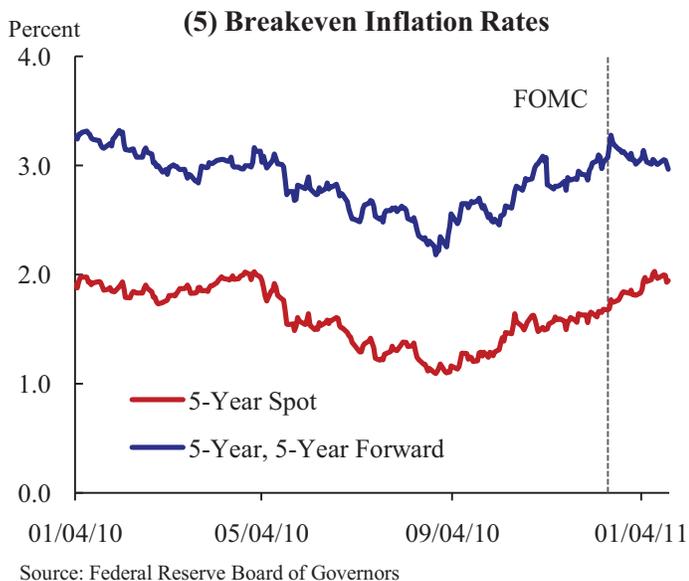
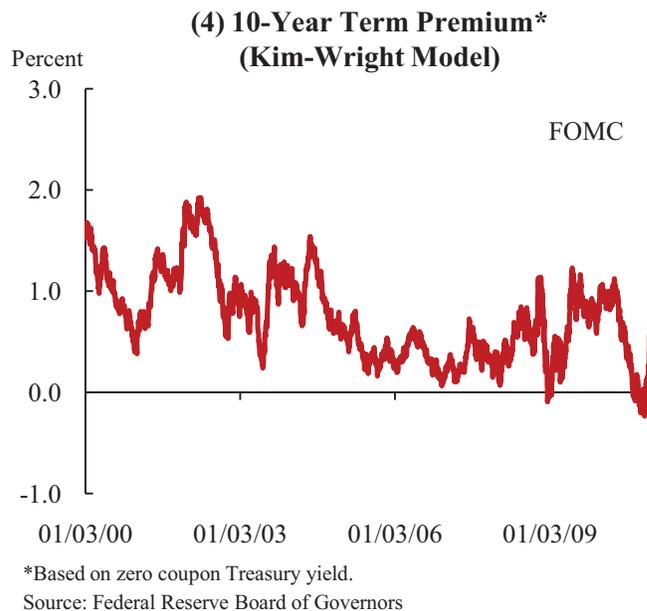
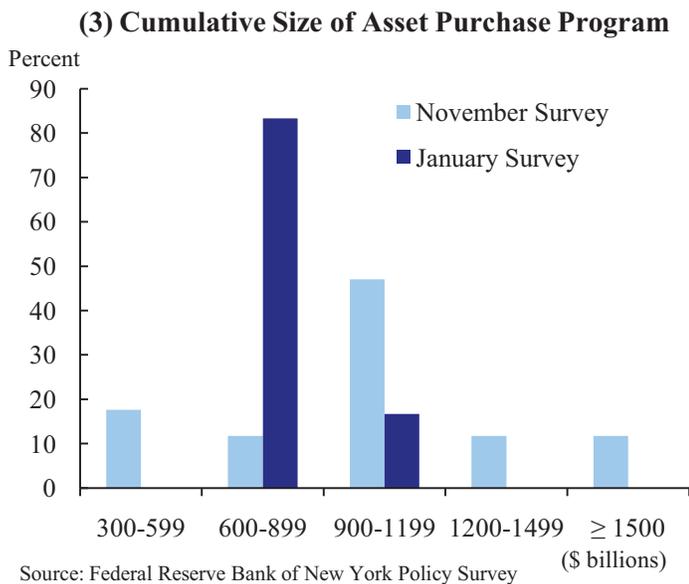
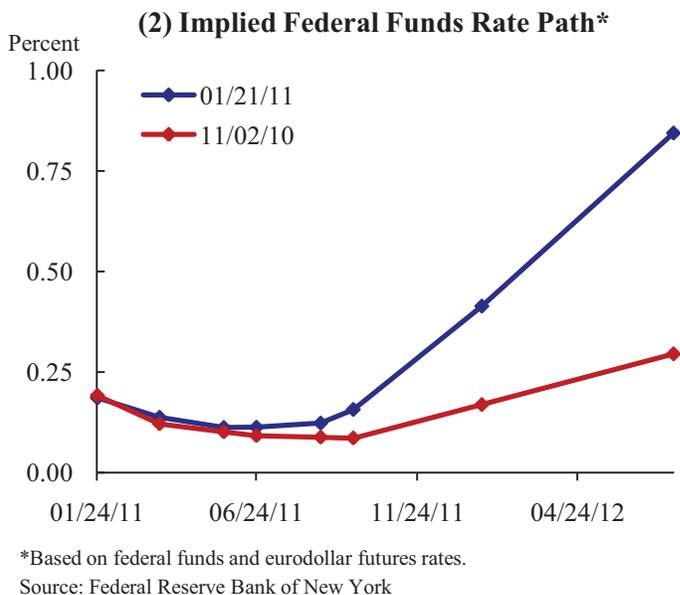
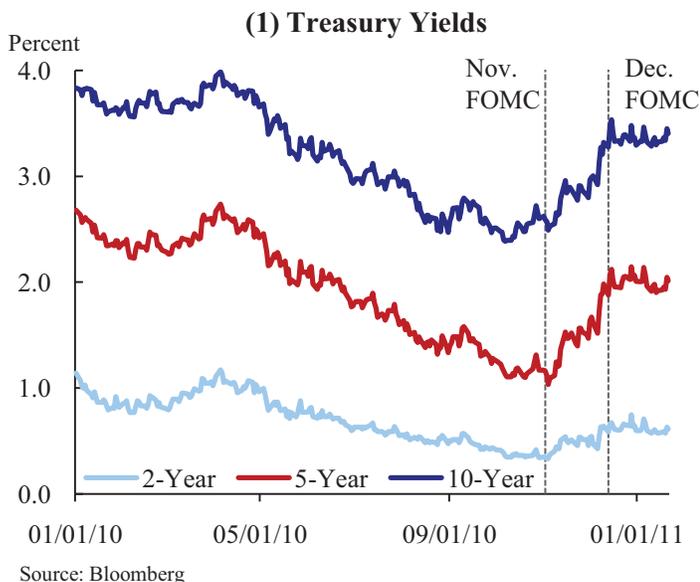
Material for

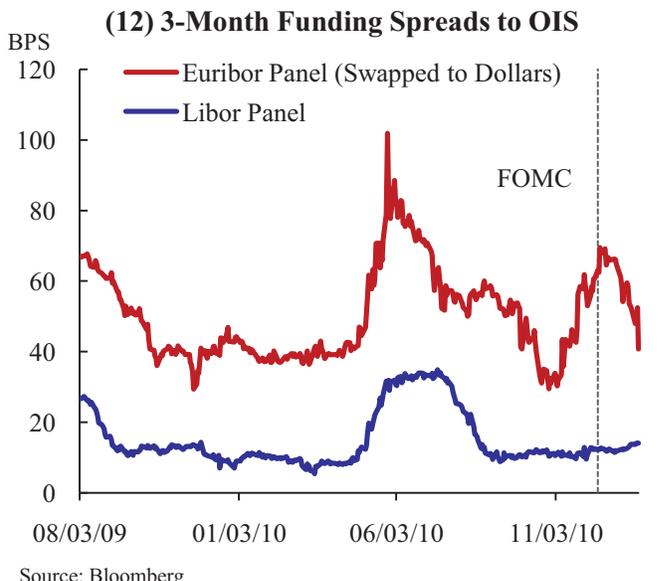
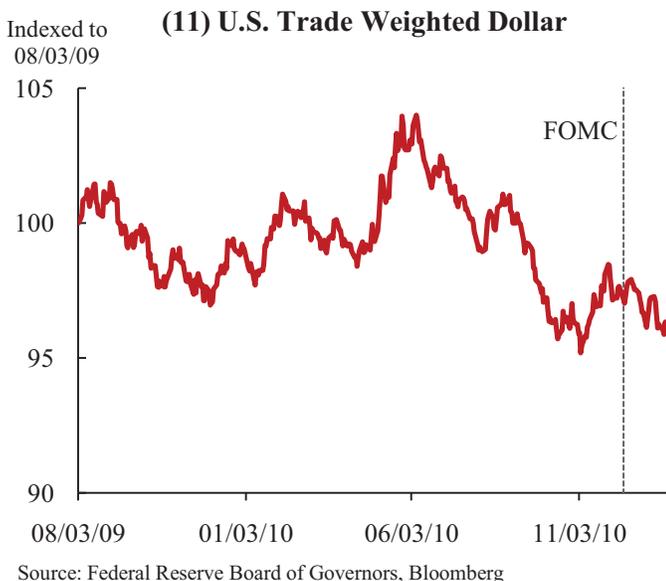
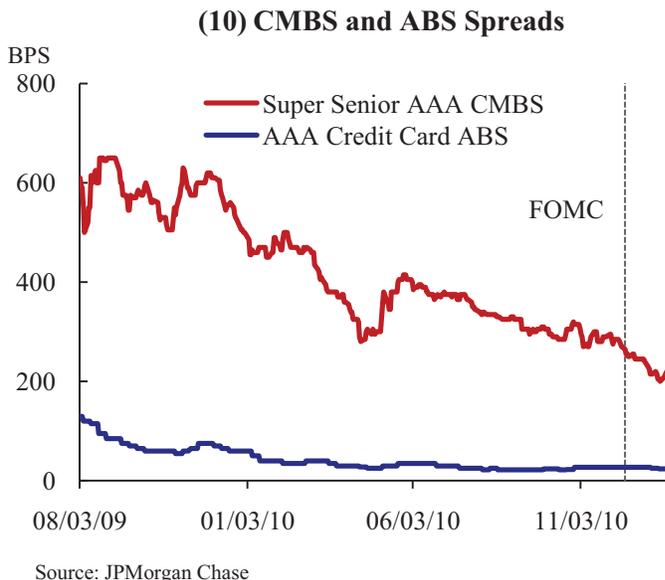
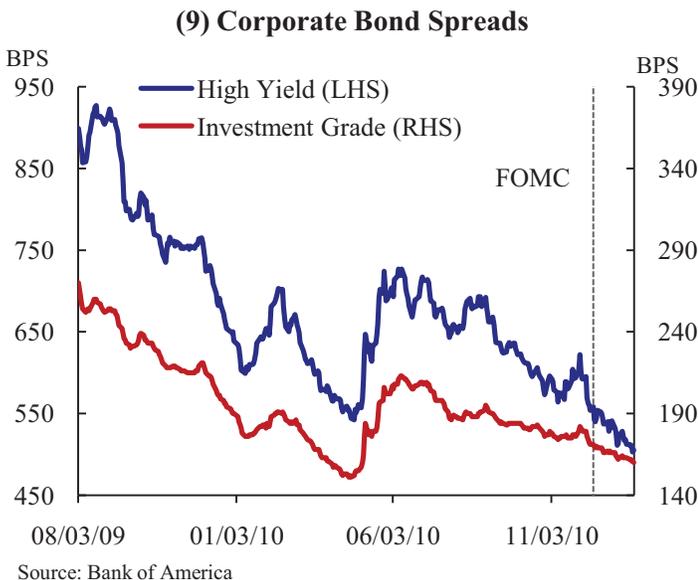
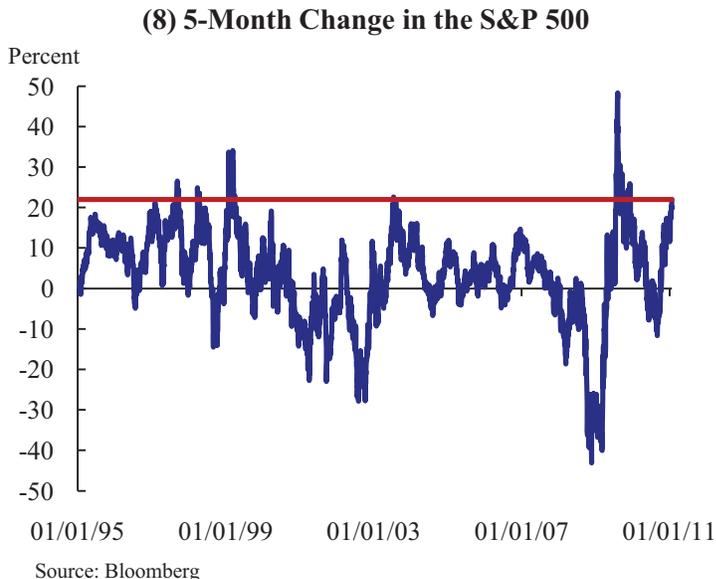
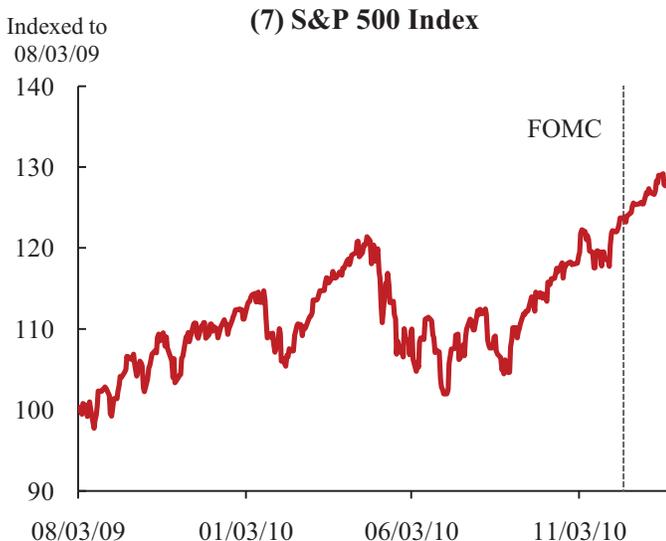
**FOMC Presentation:**

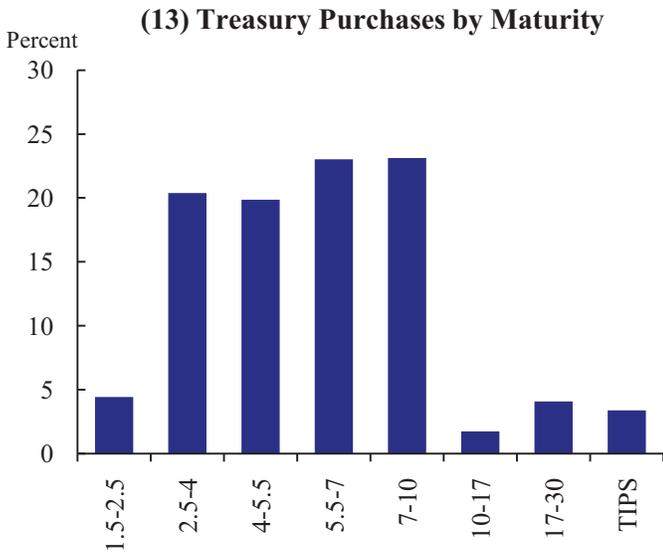
*Financial Market Developments and Desk Operations*

Brian Sack

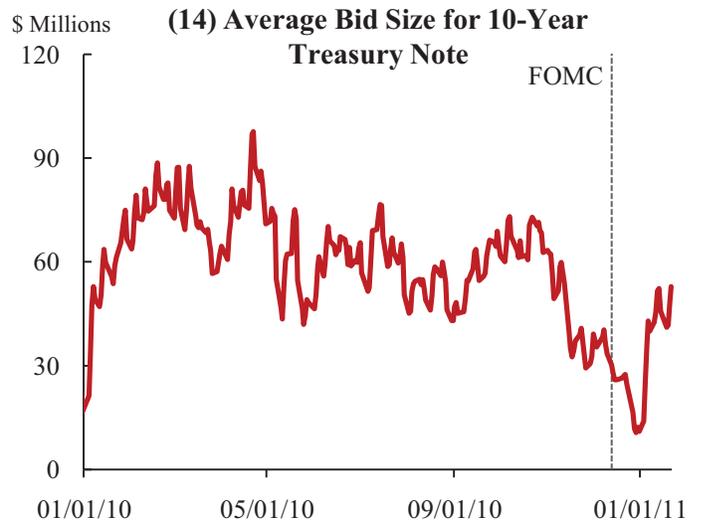
January 25, 2011



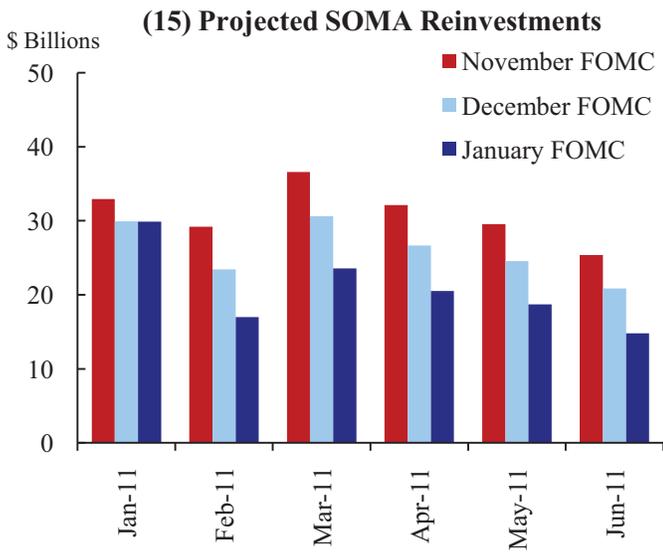




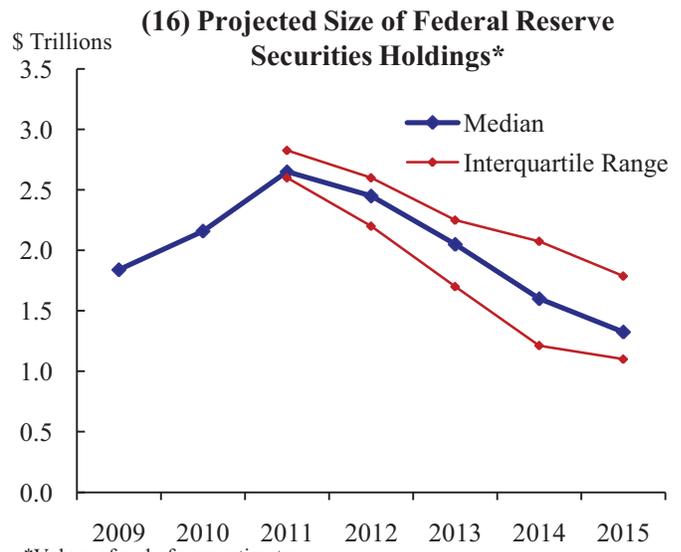
Source: Federal Reserve Bank of New York



Source: BrokerTec

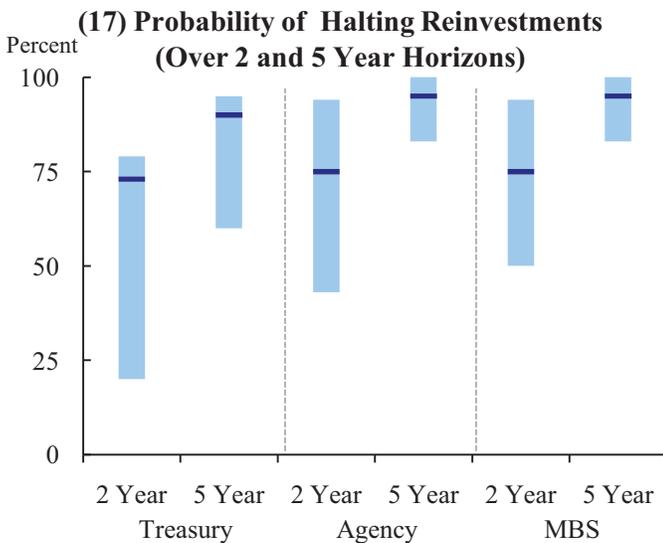


Source: Federal Reserve Bank of New York

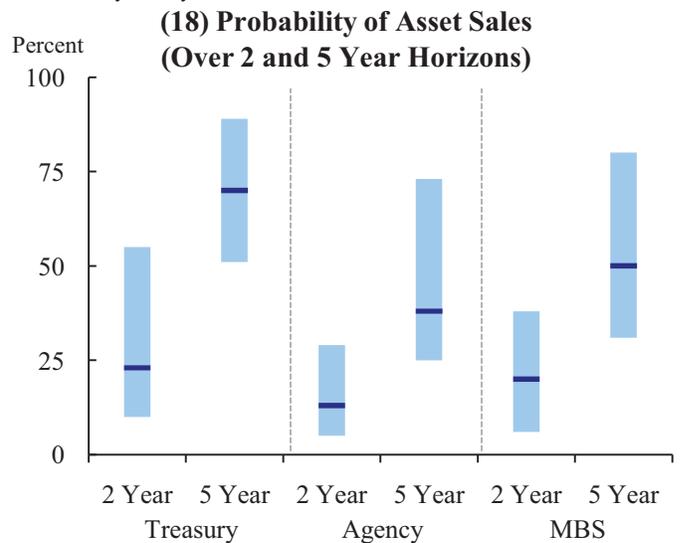


\*Values of end of year estimates.

Source: Federal Reserve Board of Governors, Federal Reserve Bank of New York Policy Survey

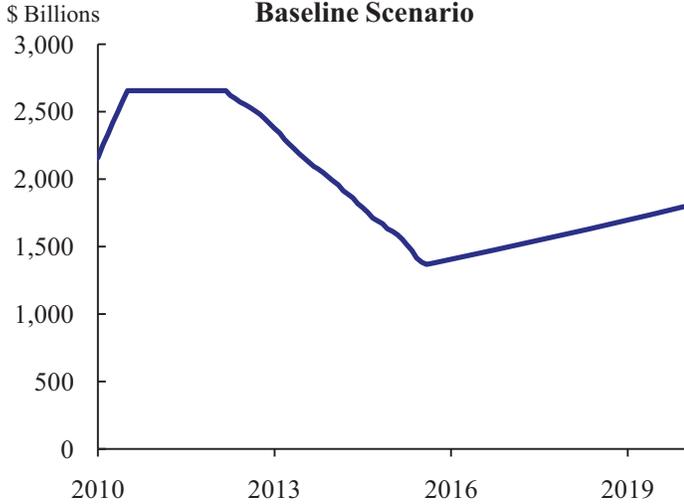


Source: Federal Reserve Bank of New York Policy Survey



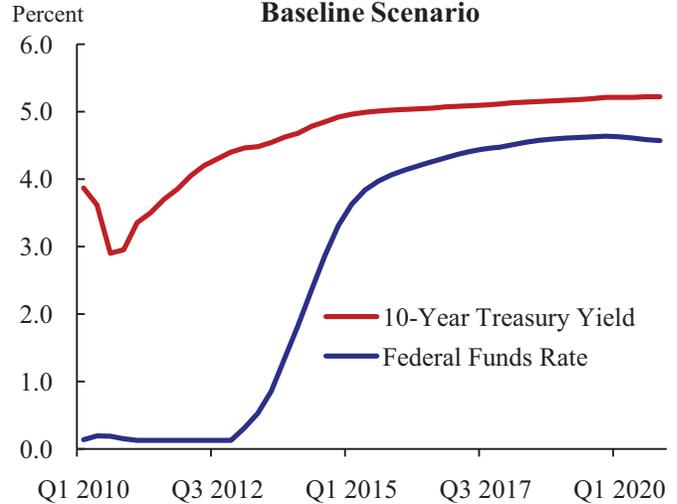
Source: Federal Reserve Bank of New York Policy Survey

**(19) Balance Sheet Path under Baseline Scenario**



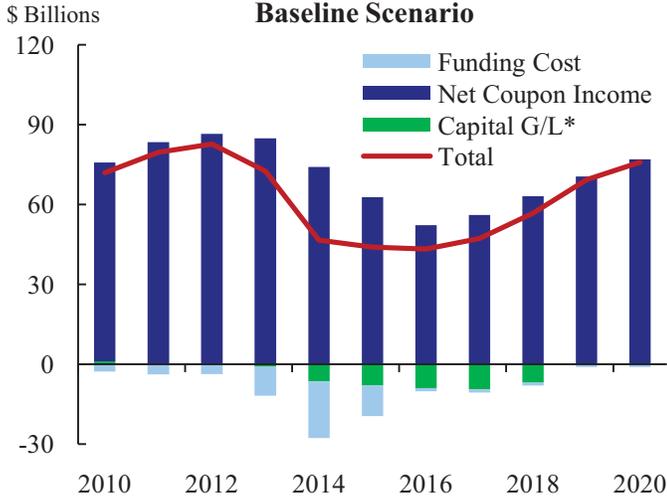
Source: Staff memo to FOMC

**(20) Interest Rate Path under Baseline Scenario**



Source: Staff memo to FOMC

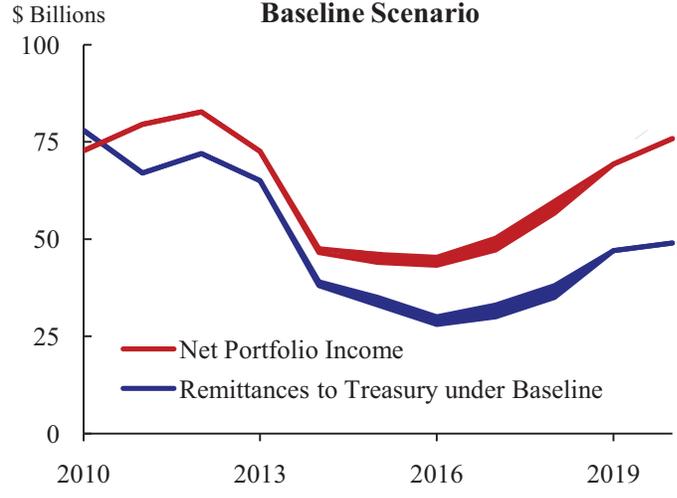
**(21) Net Portfolio Income under Baseline Scenario**



\*Represents the average between the FRBNY and the Board.

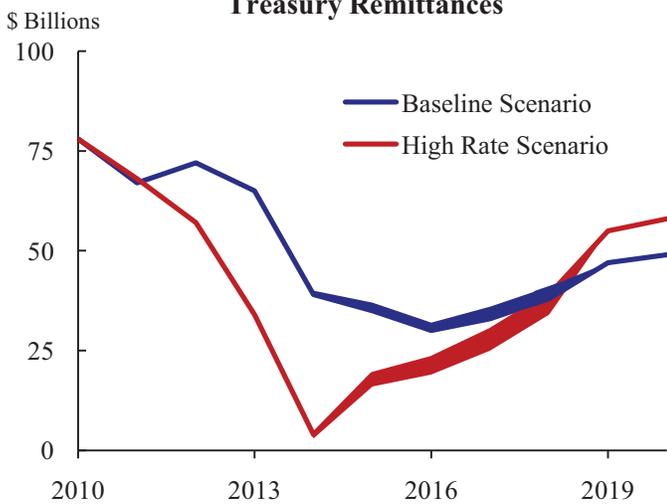
Source: Staff memo to FOMC

**(22) Treasury Remittances under Baseline Scenario**



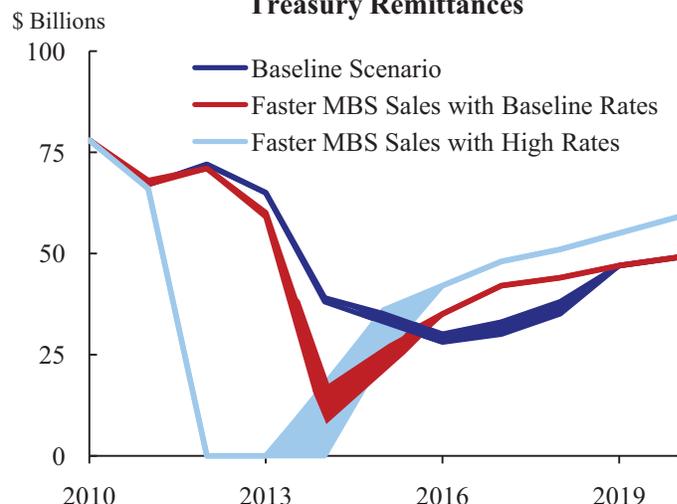
Source: Staff memo to FOMC

**(23) Effects of Higher Interest Rates on Treasury Remittances**



Source: Staff memo to FOMC

**(24) Effects of Faster MBS Sales on Treasury Remittances**



Source: Staff memo to FOMC

**Appendix 3: Materials used by Messrs. Reifschneider and Kamin, and Ms. Liang**

CLASS II FOMC - Restricted (FR)

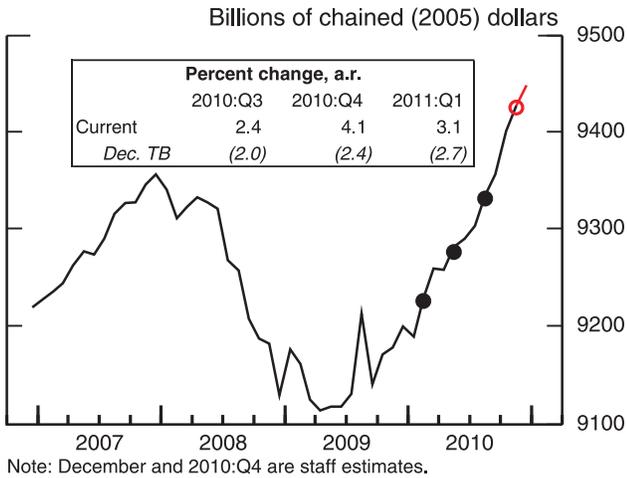
*Material for*

*Staff Presentation on the  
Economic Outlook*

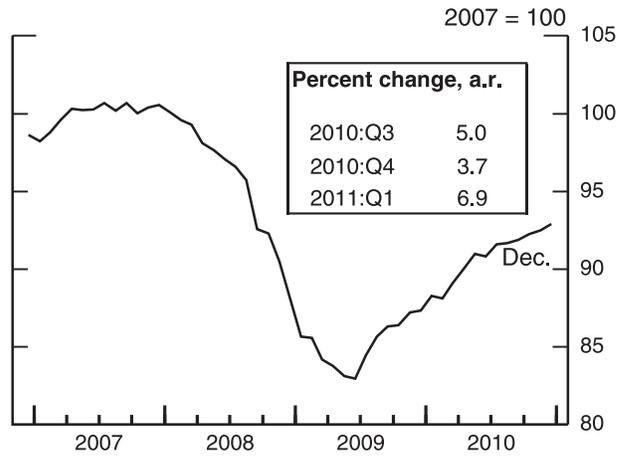
*January 25-26, 2011*

### Recent Nonfinancial Indicators

#### Real Personal Consumption Expenditures



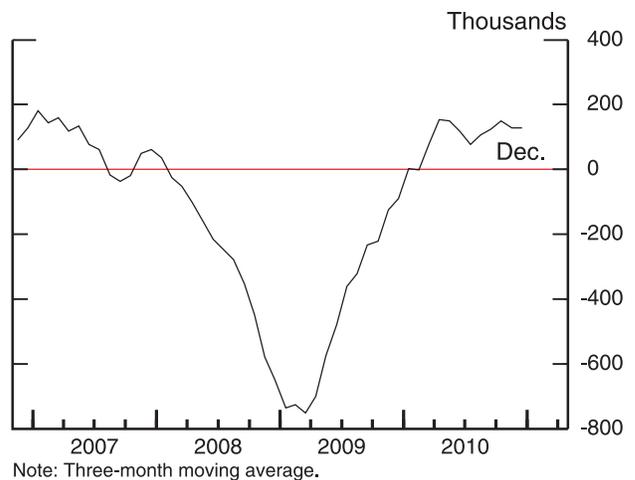
#### Manufacturing IP



#### Single-family Housing Starts and Sales



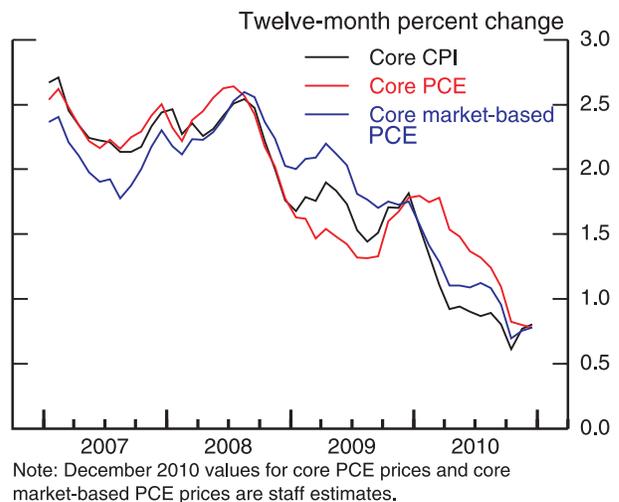
#### Change in Private Payroll Employment



#### Near-term GDP Projection (Percent change, annual rate)

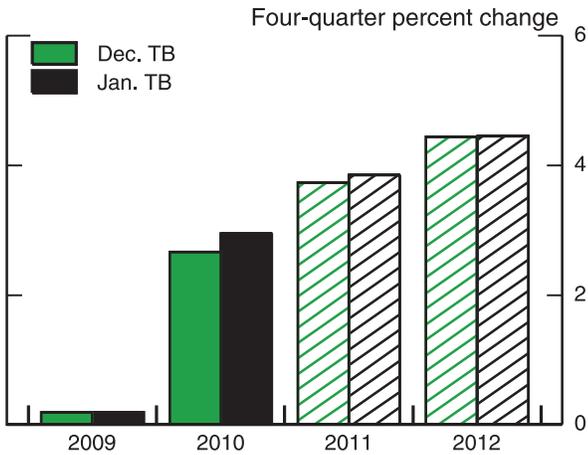
	2010 Q3	2010 Q4	2011 Q1
1. Real GDP	2.6	3.8	3.6
2. (Dec. TB)	(2.7)	(2.5)	(3.4)
3. PDPF	2.3	4.0	3.9
4. (Dec. TB)	(2.6)	(2.7)	(3.5)

#### Consumer Prices

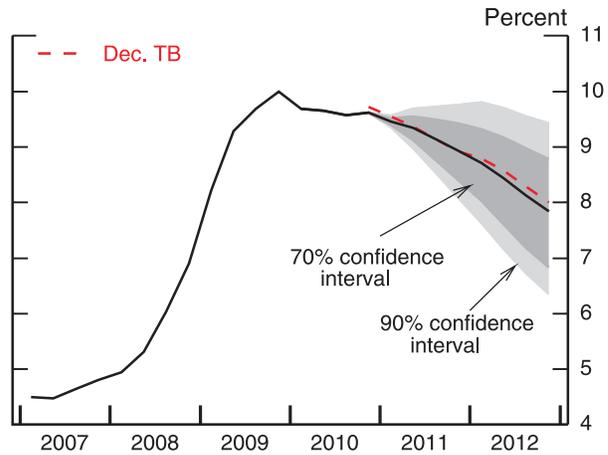


## Medium-term Outlook for Real Activity and Inflation

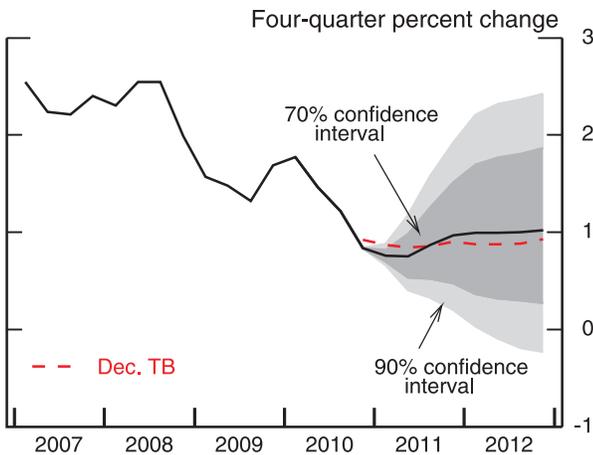
**Real GDP**



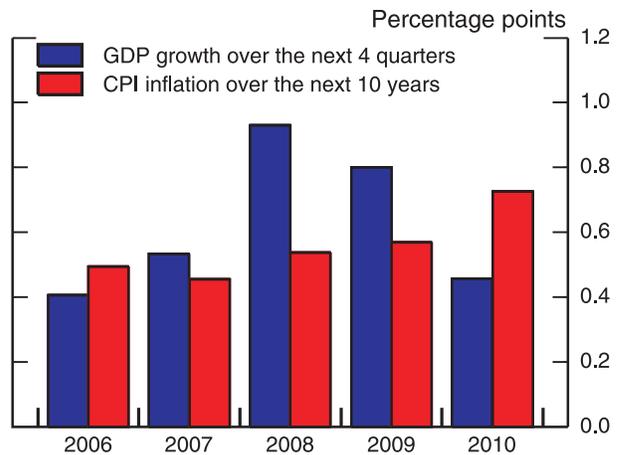
**Unemployment Rate**



**Core PCE Prices**

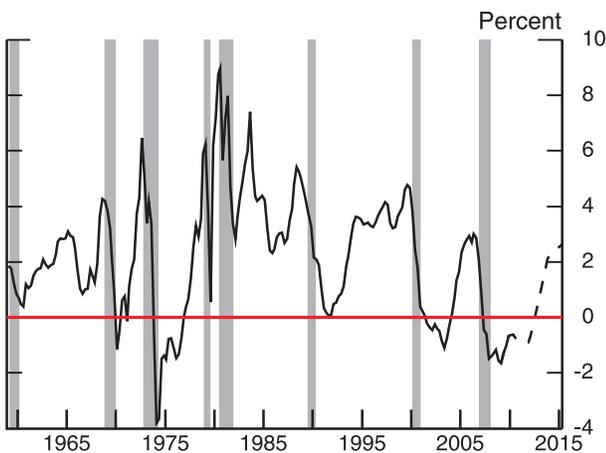


**Dispersion of SPF Forecasts**

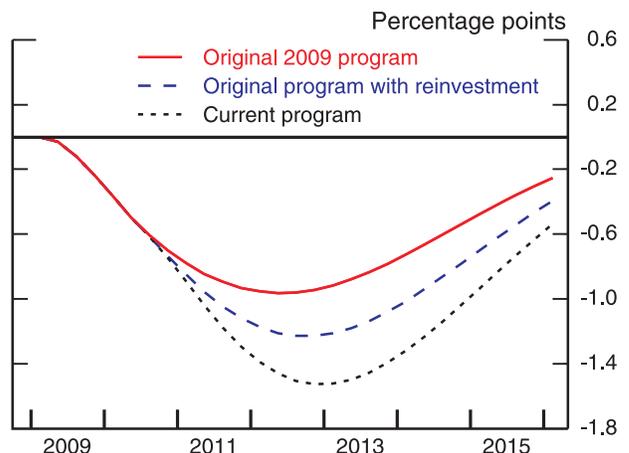


Note: Standard deviation of projections across participants in SPF surveys released in the fourth quarter.

**Real Federal Funds Rate**



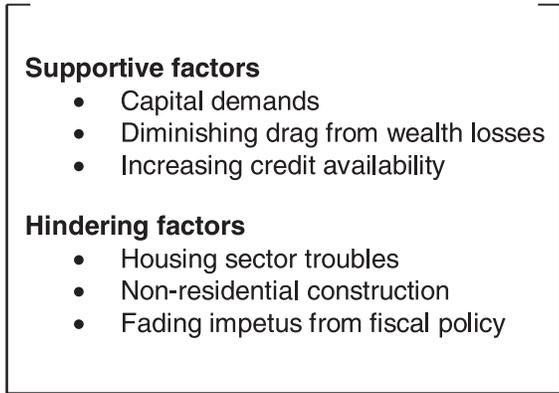
**Unemployment Effects of Asset Purchases\***



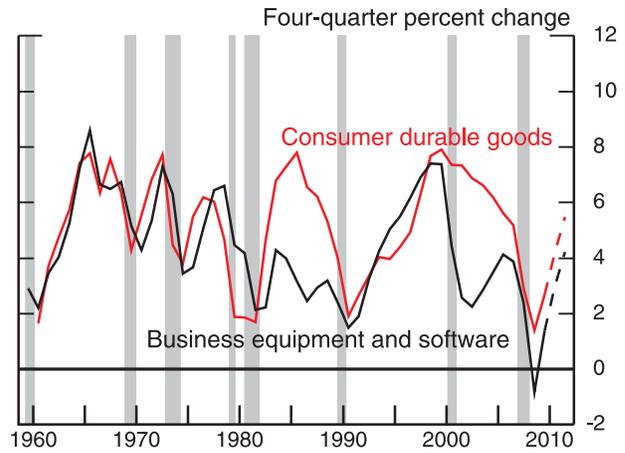
\* Based on FRB/US simulations, assuming no offsetting changes in the medium-term path of the federal funds rate.

# The Pace of Recovery

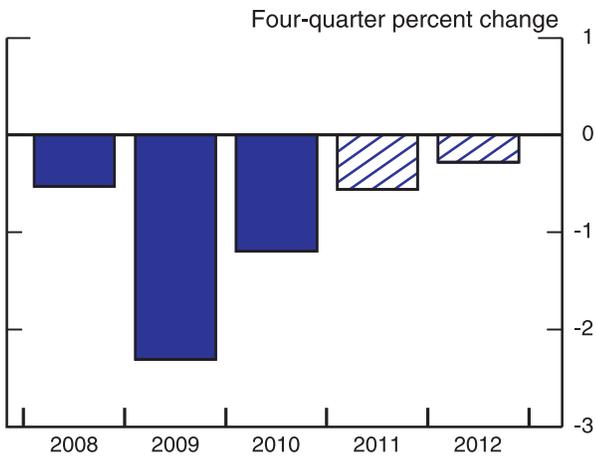
## Forces Shaping the Recovery



## Capital Stocks



## Direct Contribution of Wealth to Real PCE Growth

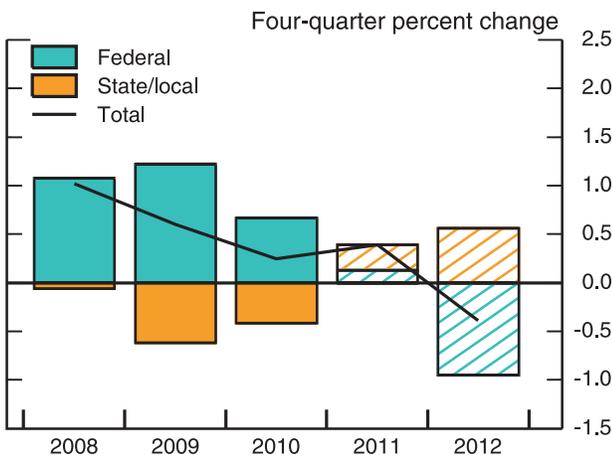


## Decomposition of Cyclical Recoveries

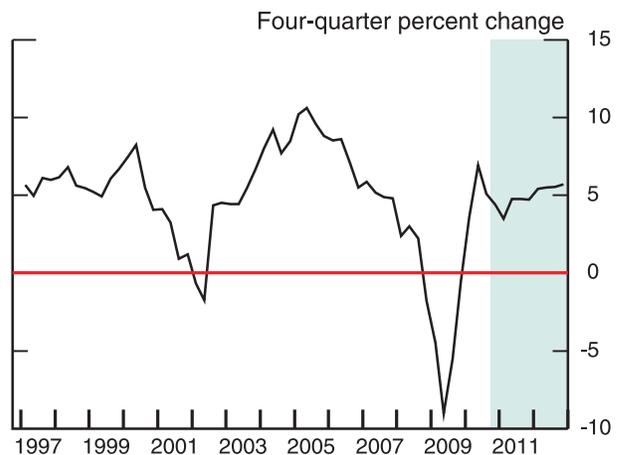
	Average	Current
Real GDP expansion*	9.7	6.5
Selected contributions (p.p.):		
Housing	1.3	0.0
Nonres. Structures	0.0	-0.5
S&L purchases	0.4	-0.2

\* Percent change in real GDP, eight quarters after the trough.

## Fiscal Impetus



## State and Local Tax Receipts

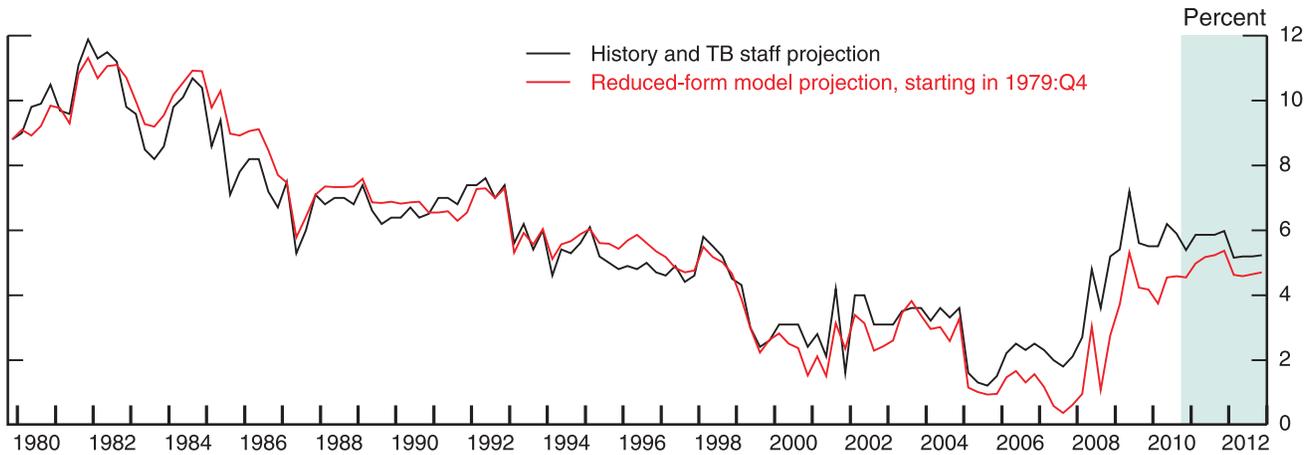


Class II FOMC - Restricted (FR)

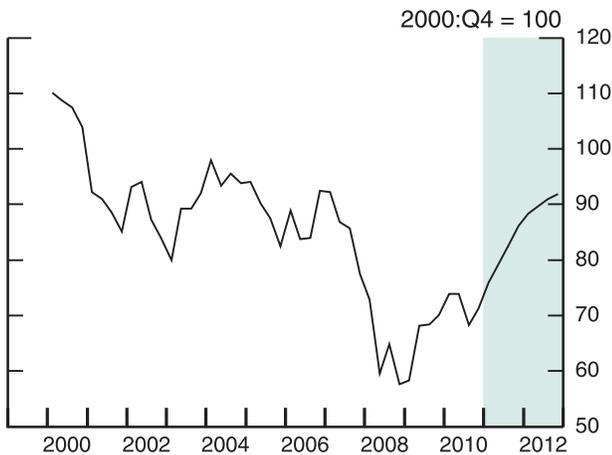
Exhibit 4

## Household Saving, Sentiment, and Credit Conditions

### Personal Saving Rate

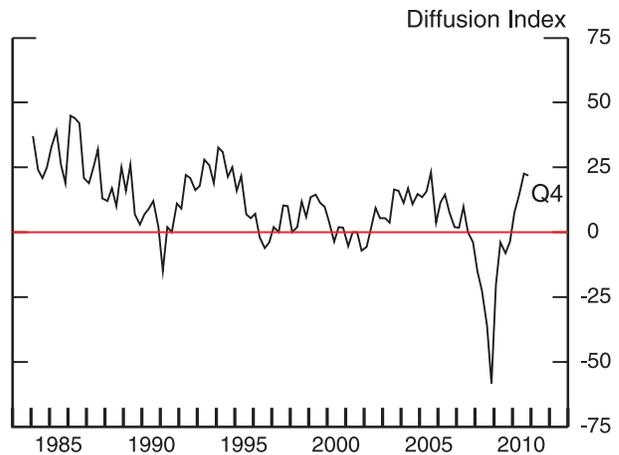


### Consumer Sentiment



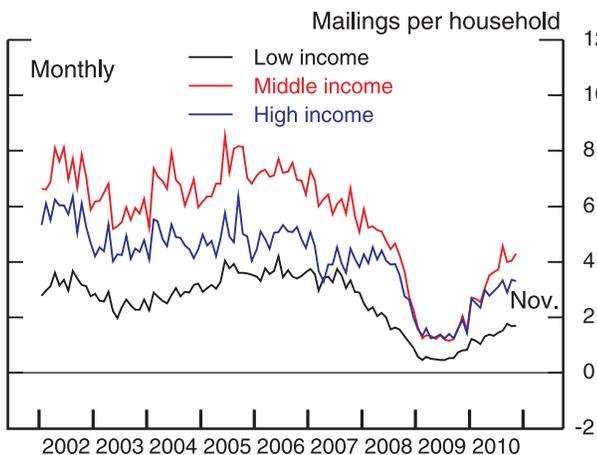
Source: Reuters/University of Michigan Survey of Consumers.

### Willingness to Make Consumer Loans



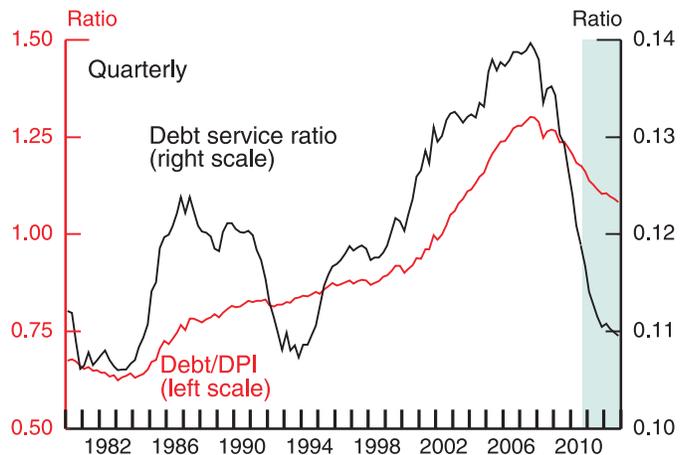
Source: Senior Loan Officer Opinion Survey.

### Credit Card Solicitations



Note: Low-income, middle-income, and high-income households earn less than \$45,000, between \$45,000 and \$100,000, and more than \$100,000, respectively.  
Source: Mintel.

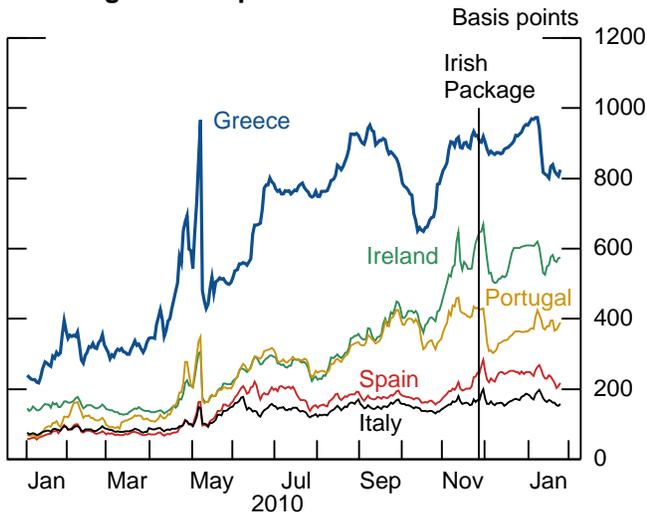
### Measures of Household Debt Burden



\* Debt service ratio is debt service payments (principal and interest) relative to disposable personal income.  
Source: Flow of Funds Accounts.

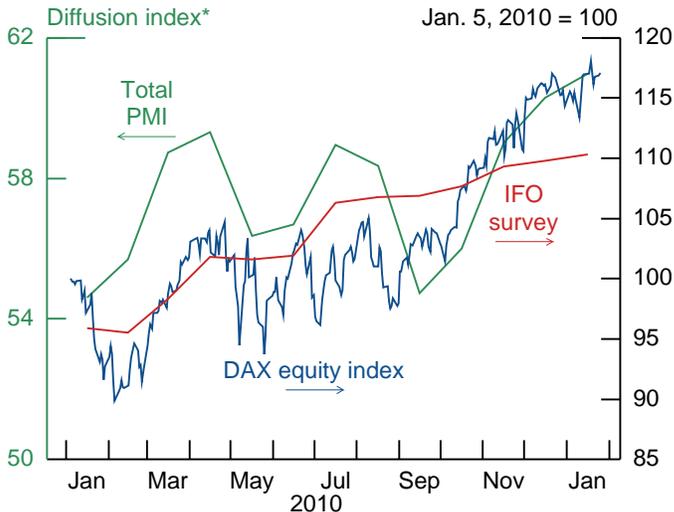
# European Developments

## Sovereign Bond Spreads\*



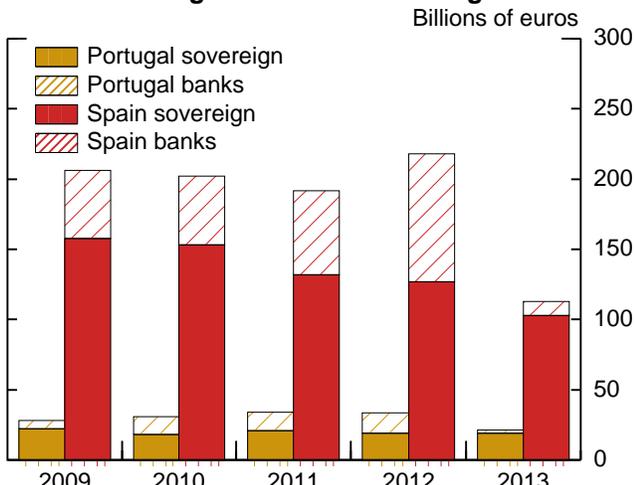
\* Long-term yield spreads over German bunds. Source: Bloomberg.

## German Indicators



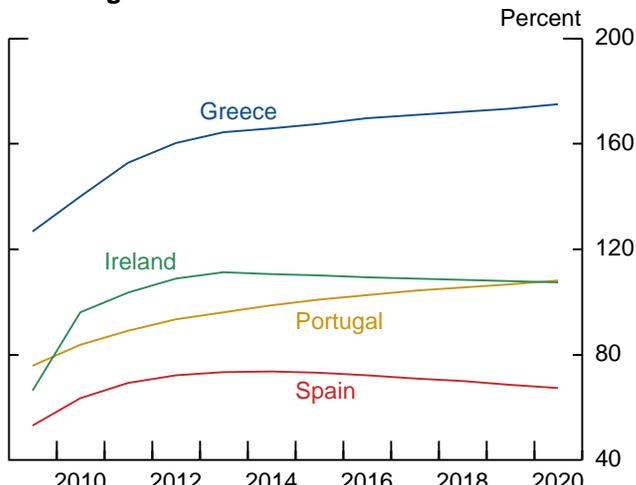
\* 50+ = expansion.

## Gross Sovereign and Bank Financing Needs\*



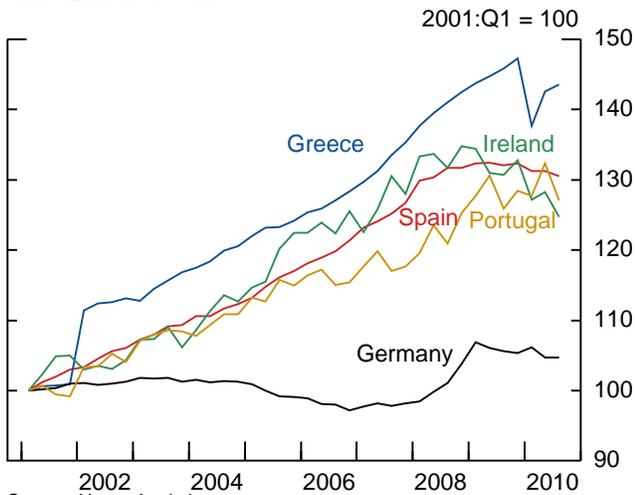
\* Sovereign is sum of projected fiscal deficit and sovereign bond redemptions. Bank is marketable debt only. Does not include potential costs of bank bailouts.

## Sovereign Debt-to-GDP Ratios\*



\* Staff estimates.

## Unit Labor Costs



Source: Haver Analytics.

## Containing Contagion

- Backing Portugal and Spain will require €500+ billion, compared with currently available resources of €375-400 billion.
- Critical that back-stop capacity be expanded.
- Horizontal review of banks must:
  - be more credible than one last summer.
  - require more banks to raise capital.
  - be able to help recapitalize weak banks.

Class II FOMC - Restricted (FR)

Exhibit 6

### Foreign Outlook

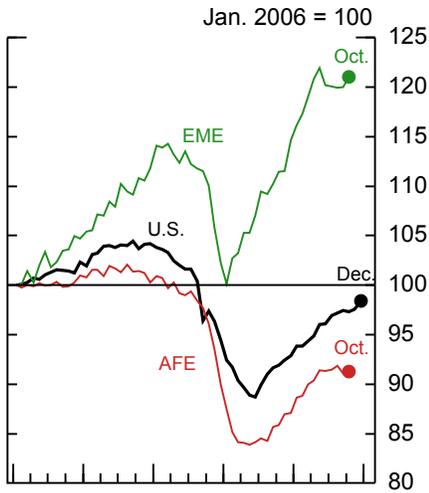
**Real GDP\***

Percent change, annual rate

	2010			2011 <sup>P</sup>	2012 <sup>P</sup>
	H1	Q3	Q4 <sup>e</sup>		
<b>1. Total Foreign</b>	<b>5.6</b>	<b>2.1</b>	<b>3.0</b>	<b>3.4</b>	<b>3.6</b>
2. <i>June Tealbook</i>	4.6	3.3	3.3	3.3	<i>n.a.</i>
<b>3. Emerging Market Economies</b>	<b>8.1</b>	<b>2.5</b>	<b>5.0</b>	<b>5.0</b>	<b>5.1</b>
4. China	9.7	9.6	9.9	8.6	8.5
5. Emerging Asia ex. China	12.3	-1.1	4.9	4.8	5.0
6. Latin America	5.2	2.8	3.1	4.2	4.2
<b>7. Advanced Foreign Economies</b>	<b>3.6</b>	<b>1.7</b>	<b>1.3</b>	<b>2.1</b>	<b>2.4</b>
8. Euro Area	2.7	1.4	1.5	1.2	2.2
9. United Kingdom	2.9	2.9	-2.0	2.0	2.5
10. Canada	3.9	1.0	2.7	2.8	2.7
11. Japan	4.9	4.5	-1.6	1.7	2.0

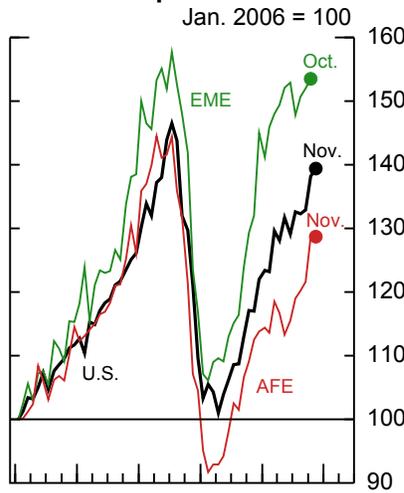
\* GDP aggregates weighted by shares of U.S. merchandise exports. Table reflects January Tealbook updated for data.

**Industrial Production\***



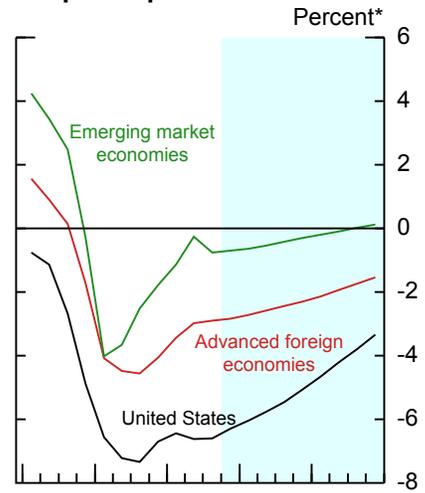
\* Weighted by share of U.S. merchandise exports.

**Nominal Exports of Goods\***



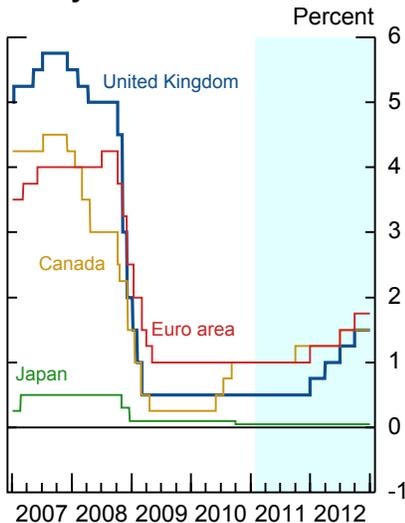
\* Dollar value; weighted by share of U.S. merchandise exports.

**Output Gaps**

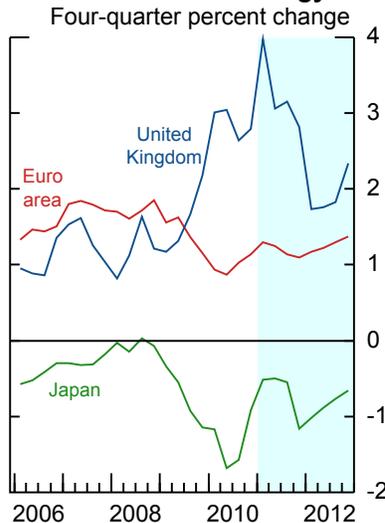


\* Deviation from potential GDP.

**Policy Rates**

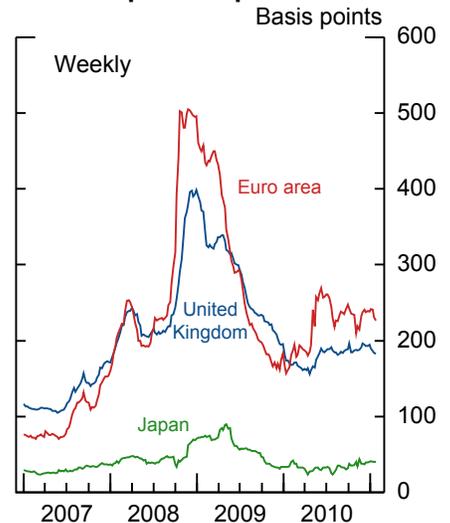


**CPI Ex. Food and Energy\***



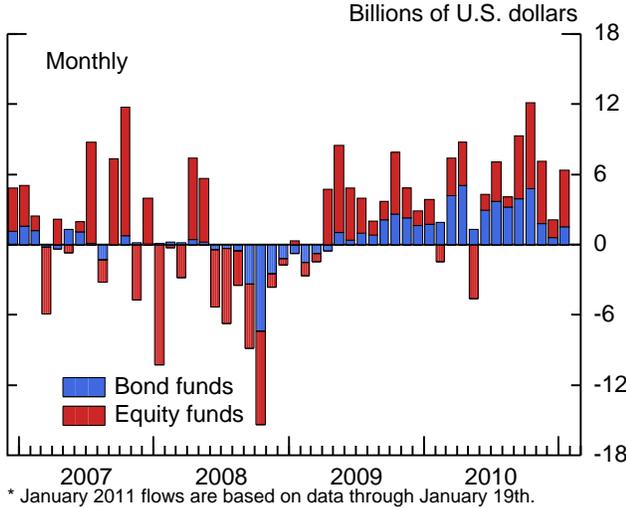
\* Staff estimates.

**BBB Corporate Spreads**

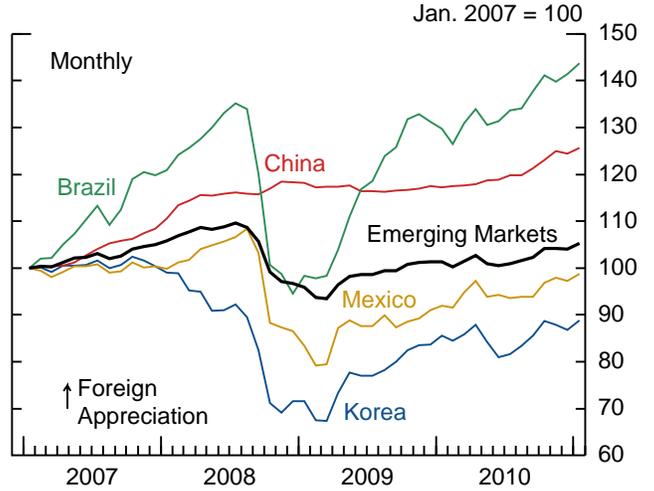


### Asset Bubbles and Commodity Prices

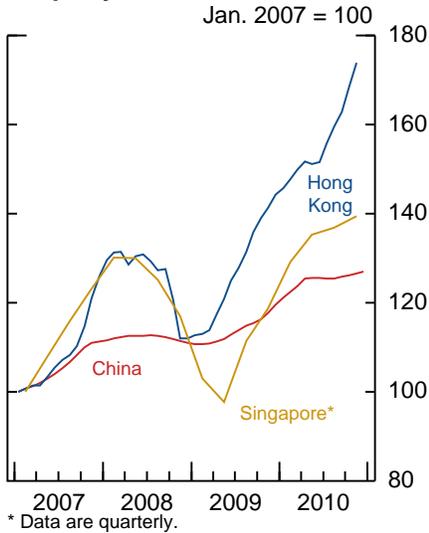
#### Flows to EME Dedicated Funds\*



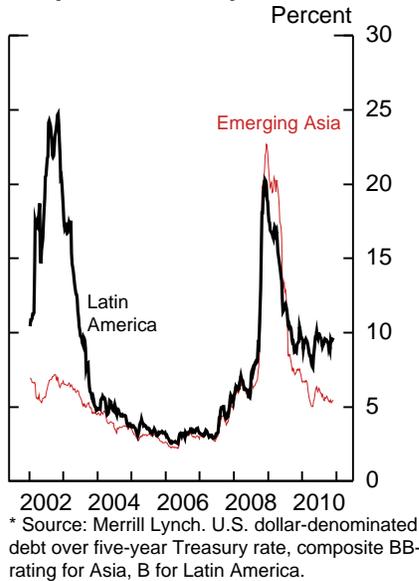
#### Real Exchange Rates Against the Dollar (USD/FC)



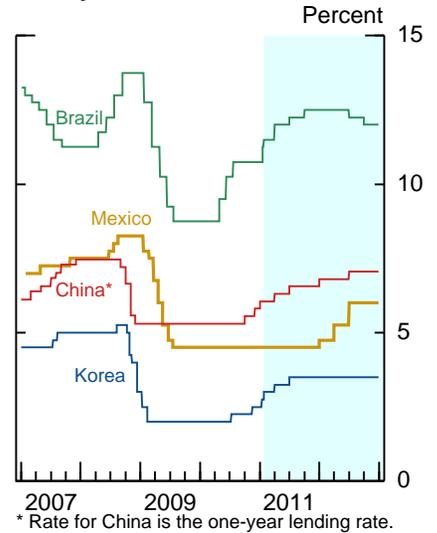
#### Property Prices



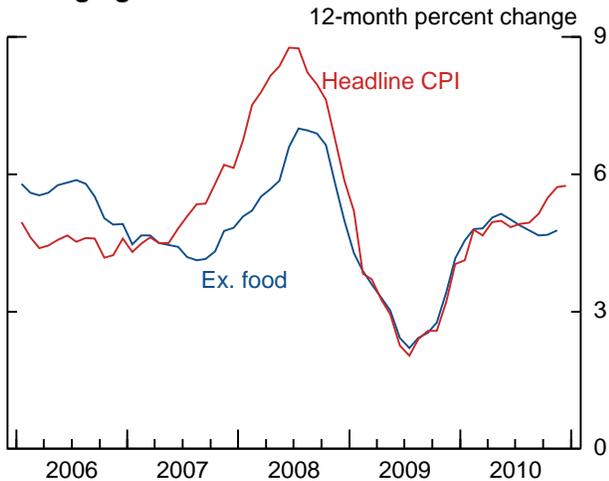
#### Corporate Debt Spreads\*



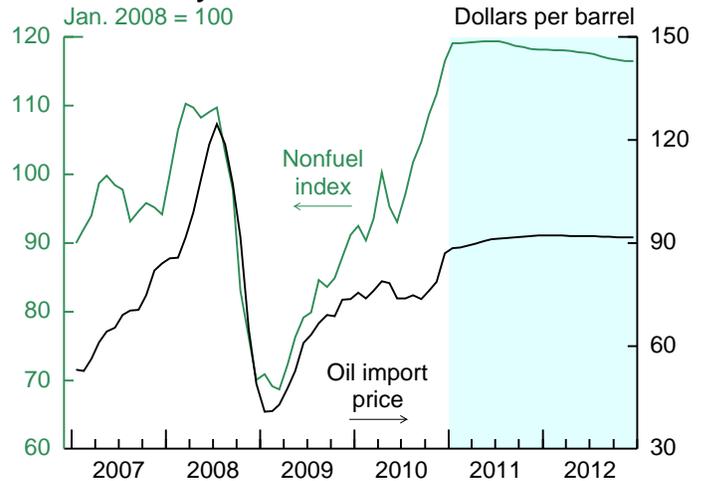
#### Policy Rates



#### Emerging Market CPI



#### Commodity Prices

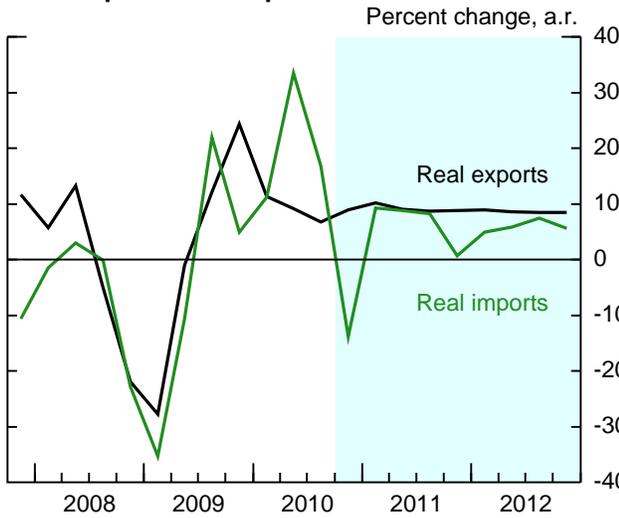


Class II FOMC - Restricted (FR)

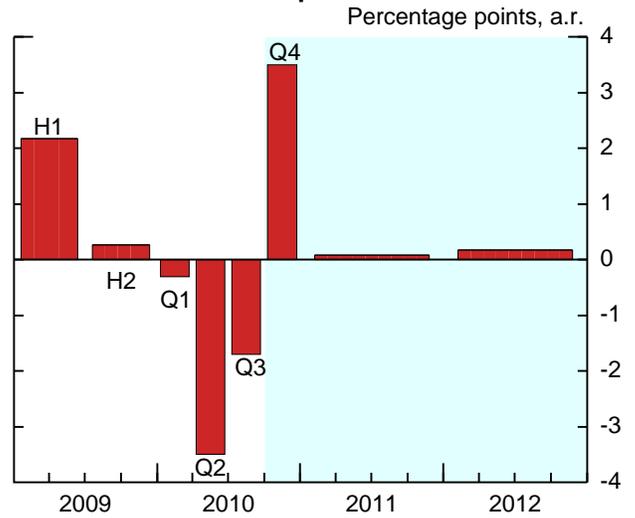
Exhibit 8

### U.S. Trade Outlook

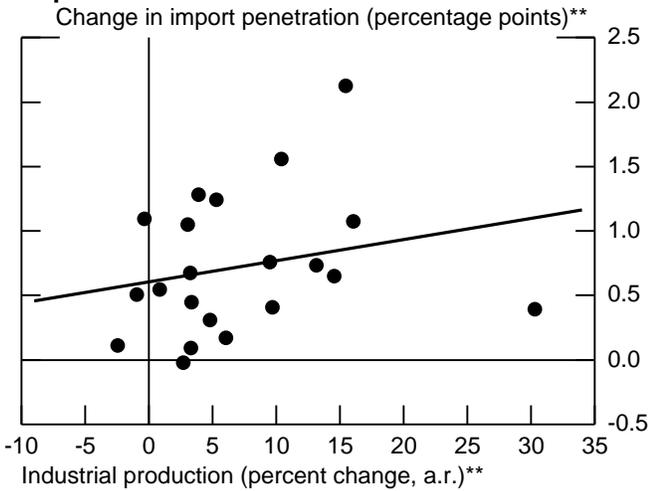
**Real Exports and Imports**



**Contribution of Net Exports to Real GDP Growth**

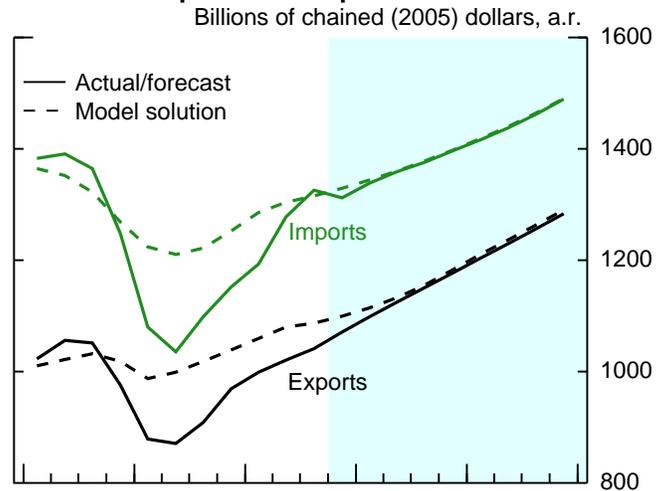


**Imports and Industrial Production\***



\* 21 disaggregated manufacturing sectors.  
 \*\* From 2009:Q2 to 2010:Q3.

**Real Core Exports and Imports\***

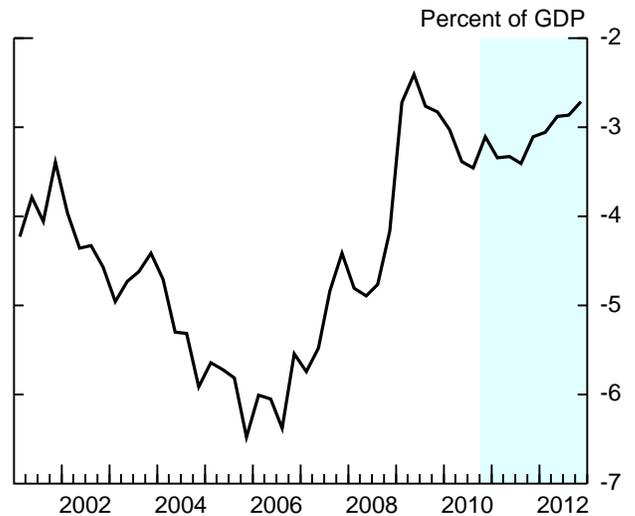


\* Core exports exclude computers, semiconductors, and services.  
 Core imports also exclude petroleum and natural gas.

**Broad Real Dollar**

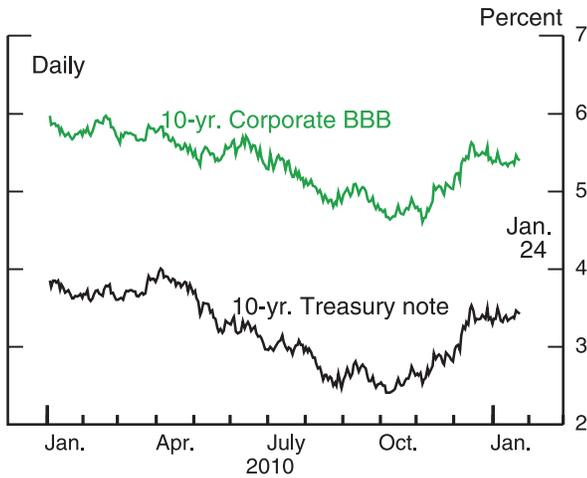


**Current Account Balance**

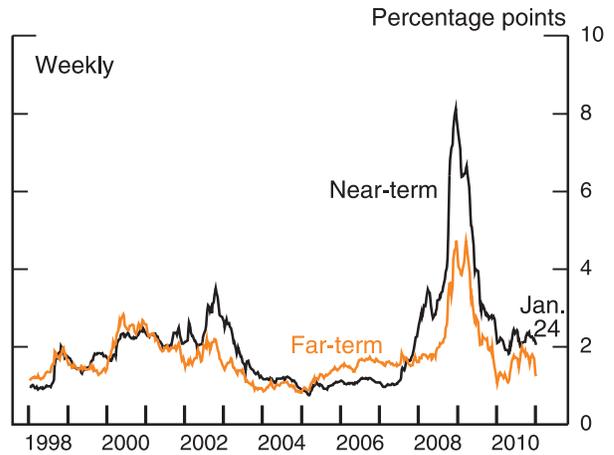


### Financial Market Developments

**Treasury and Corporate Rates**

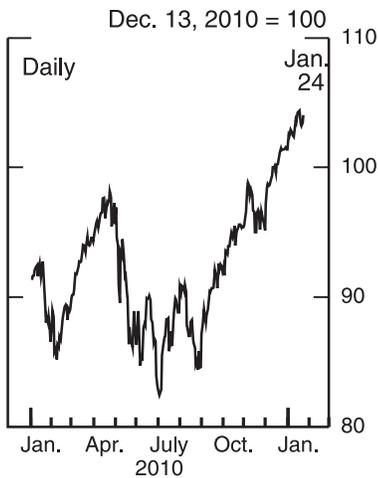


**Near- and Far-term Forward Spreads for BBB Bonds\***

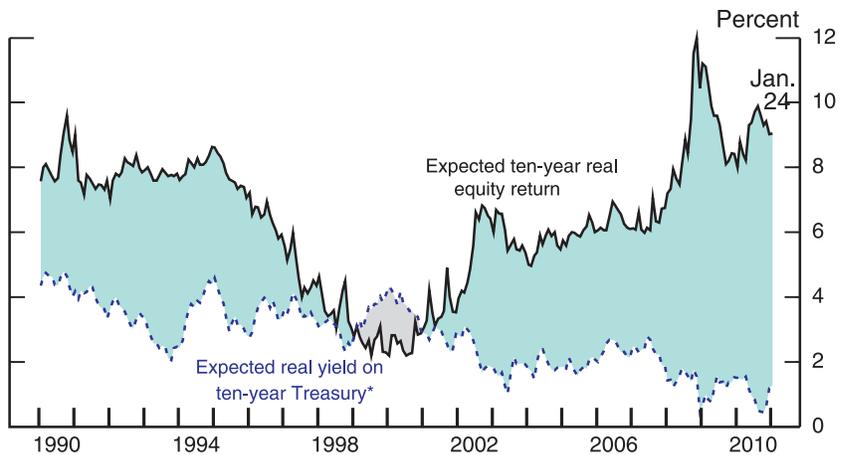


\* Near-term forward spreads between years two and three. Far-term forward spreads between years nine and ten.

**S&P 500**

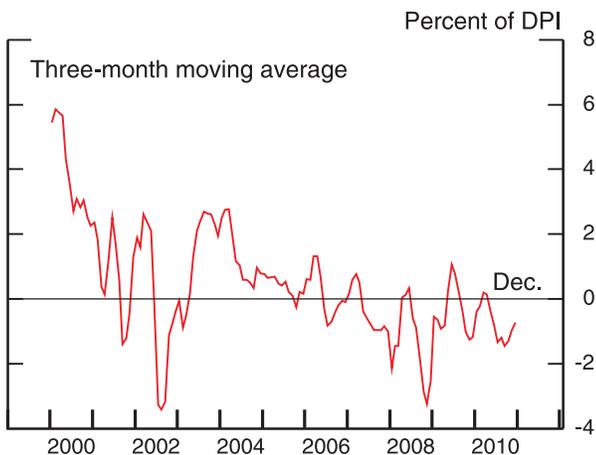


**Equity Risk Premium**



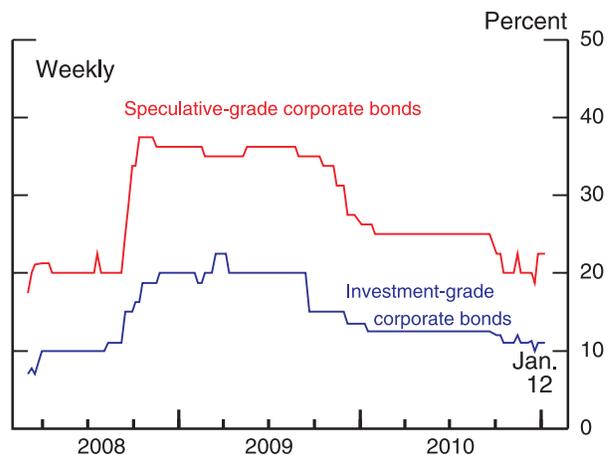
\* Off-the-run Treasury yield less Philadelphia Fed ten-year expected inflation.  
Source: Thomson Financial.

**Domestic Equity Mutual Fund Flows**



Source: Investment Company Institute.

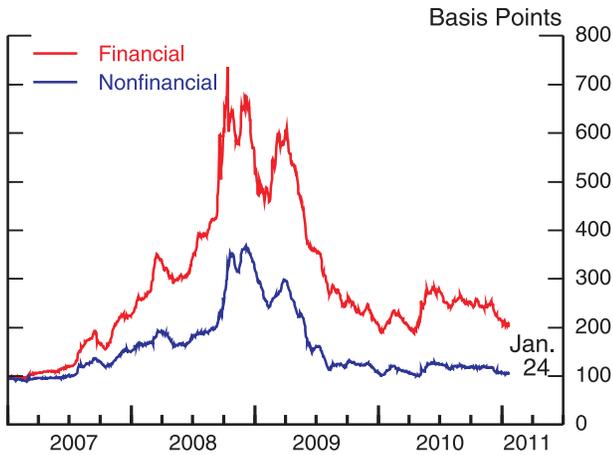
**Repo Market Haircuts**



Note: Data are for one-month median haircuts.  
Source: Federal Reserve Bank of New York.

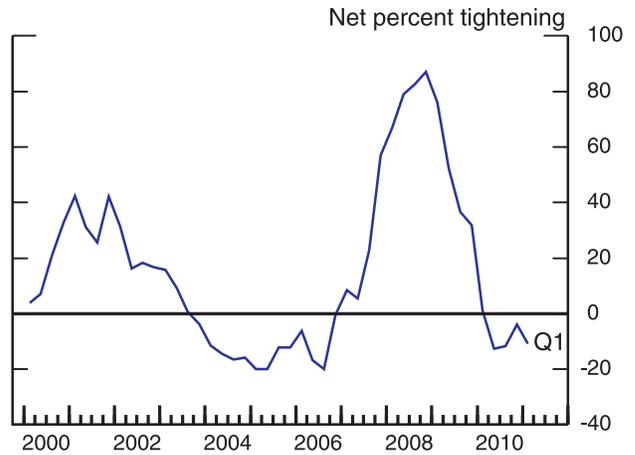
### Financing Conditions

**A-Rated Corporate Bond Spreads by Sector\***

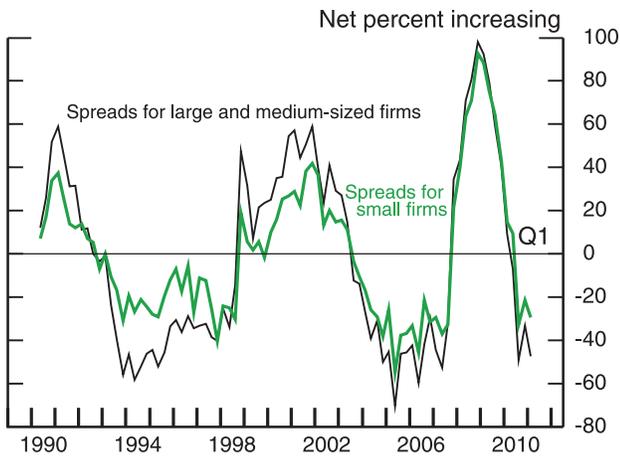


Note: Ten-year maturity. Estimated from curve fit to Merrill Lynch bond yields. Treasury yields from smoothed yield curve estimated from off-the-run securities.

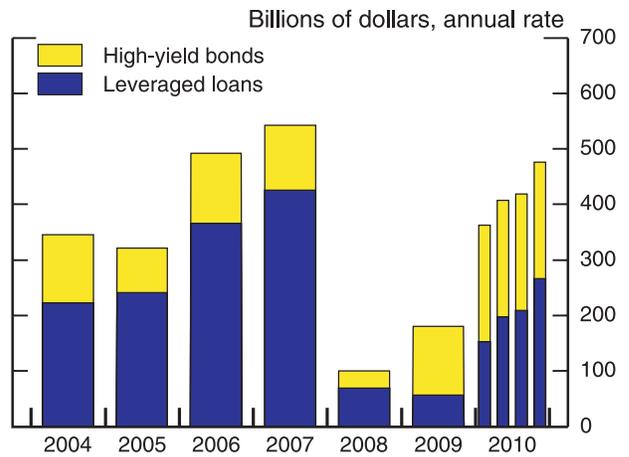
**Composite Index of Changes in Bank Credit Standards**



**Bank Spreads of Loan Rates Over Costs**



**Leveraged Loan and High-yield Bond Issuance**

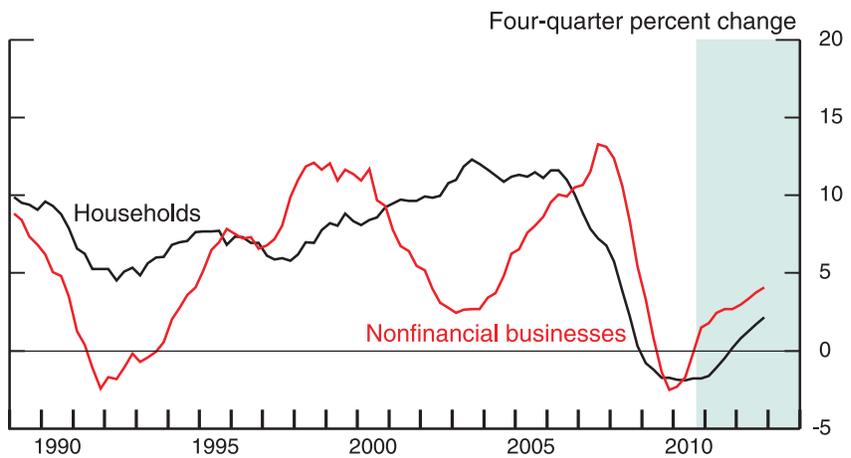


Note: Leveraged loans to institutional investors.

**Consumer Credit**

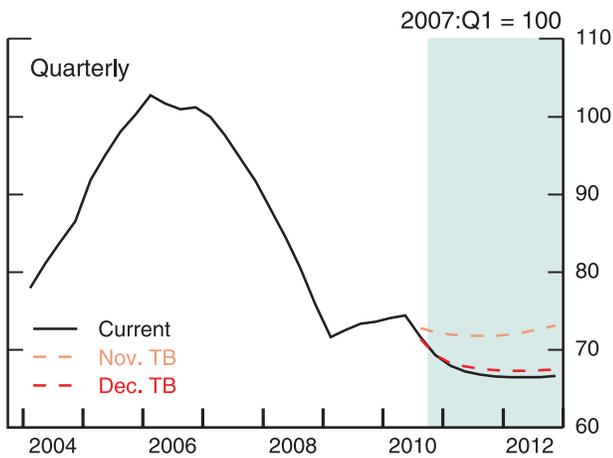


**Total Debt Growth for Households and Nonfinancial Businesses**

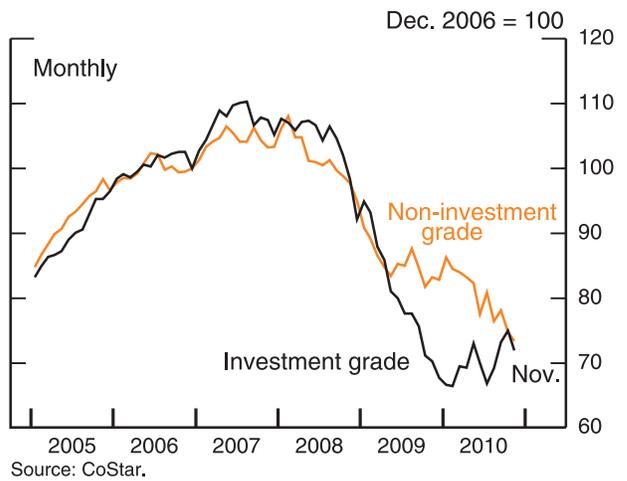


### Real Estate Remains a Risk

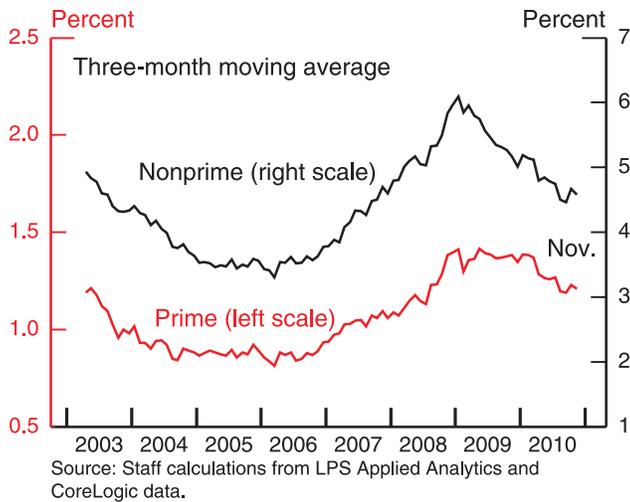
**CoreLogic House Price Index Level**



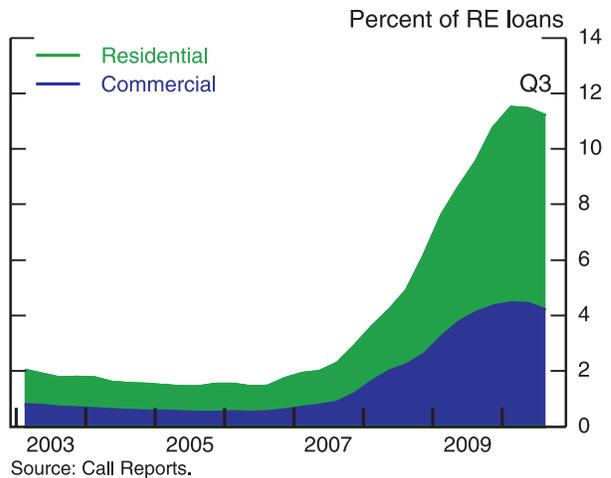
**Prices of Commercial Real Estate**



**Transition Rate to Delinquency for Residential Mortgages**



**Distressed Commercial and Residential Mortgages at Banks**



**Loan Loss Rates at Commercial Banks**  
(Percent of loans)

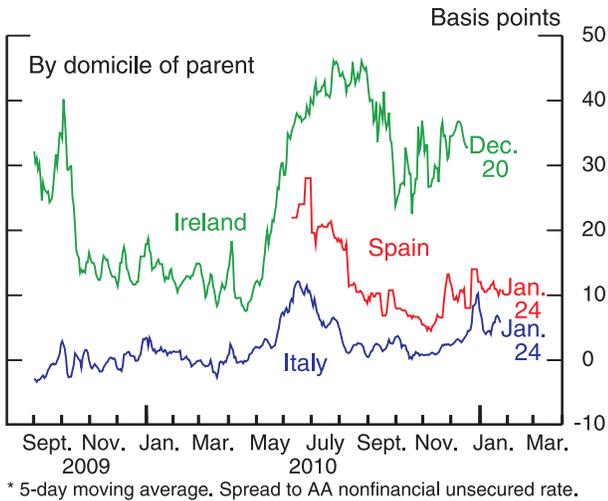
	CRE	RRE	Other	Total
2010 <sup>e</sup>	2.3	2.2	3.7	2.8
Average of 2011-2012 <sup>p</sup>	3.0	2.2	3.3	2.8

**Real Estate Risks to Banks**

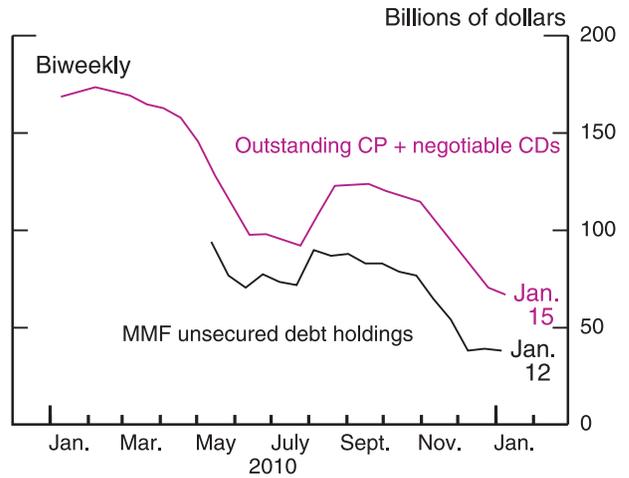
- House prices could fall more than expected.
- Exams of mortgage foreclosure practices reveal deficiencies.
- Estimates of mortgage putbacks are material for a few banks.

### Financial Risk from European and Municipal Debt Developments

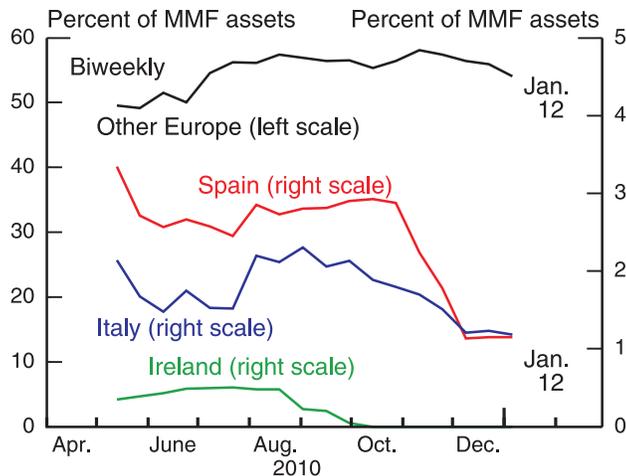
**Spreads on 1- to 10-day Financial CP Issued in the U.S.**



**Peripheral Europe: Short-term Debt Outstanding and U.S. MMF Holdings**



**U.S. MMF European Exposures\***



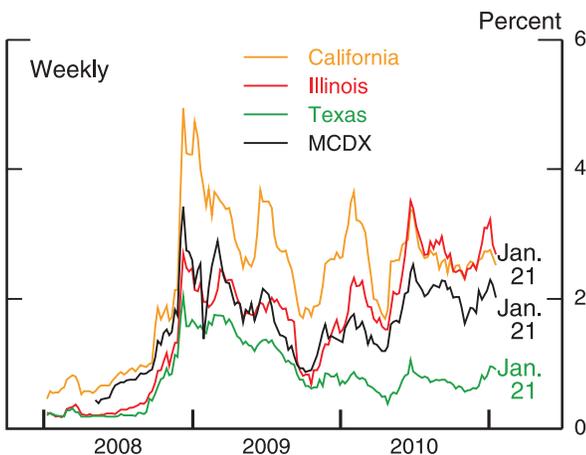
**Banking System Credit Exposure to Peripheral Europe**

June 2010, billions of dollars

	Greece, Portugal, Ireland	Spain	Total as percent of Tier 1 Capital
France	142	165	105
Germany	213	182	136
United States	67	52	15

Source: BIS consolidated banking statistics.

**Selected States CDS Five-year Spreads**



**Risks**

- State and local governments pay higher rates.
- Could lose access to VRDOs.
  - VRDOs are long-term bonds with interest rates that reset frequently.
- Bank credit losses from loans and securities likely modest.
- Balance sheets pressured if investors putback VRDOs.

**Appendix 4: Materials used by Ms. Zickler**

**Class I FOMC – Restricted Controlled (FR)**

*Material for Briefing on*

**FOMC Participants' Economic Projections**

**Joyce Zickler**  
**January 25, 2011**

Exhibit 1. Central tendencies and ranges of economic projections, 2011–13 and over the longer run

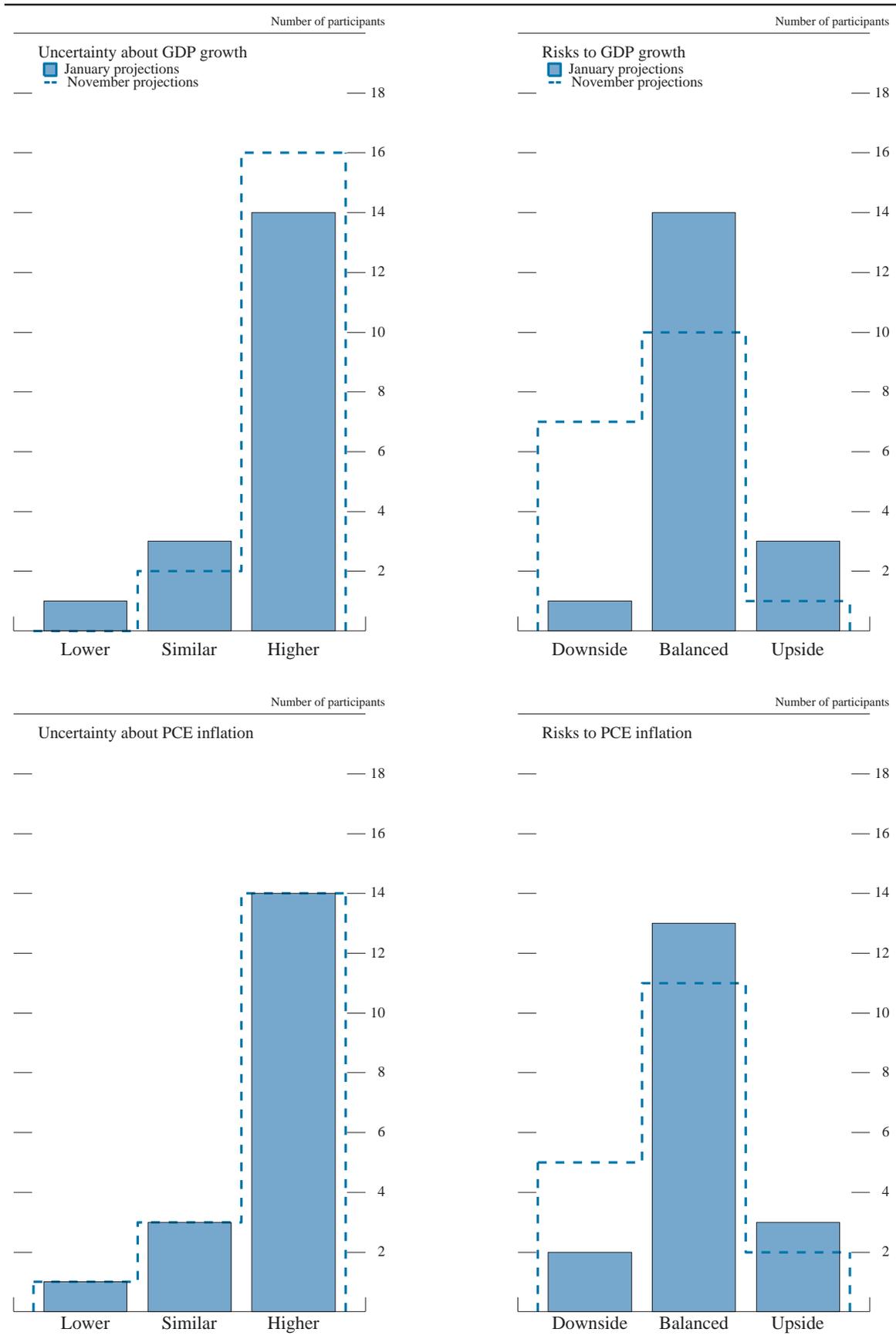


Exhibit 2. Economic projections for 2011-2013 and over the longer run (percent)

Change in real GDP				
	2011	2012	2013	Longer run
<b>Central Tendency</b>	3.4 to 3.9	3.5 to 4.4	3.7 to 4.6	2.5 to 2.8
<i>November projections</i>	<i>3.0 to 3.6</i>	<i>3.6 to 4.5</i>	<i>3.5 to 4.6</i>	<i>2.5 to 2.8</i>
<b>Range</b>	3.2 to 4.2	3.4 to 4.5	3.0 to 5.0	2.4 to 3.0
<i>November projections</i>	<i>2.5 to 4.0</i>	<i>2.6 to 4.7</i>	<i>3.0 to 5.0</i>	<i>2.4 to 3.0</i>
<b>Memo: Tealbook</b>	3.8	4.4	4.6	3.0
<i>November Tealbook</i>	<i>3.6</i>	<i>4.7</i>	<i>4.7</i>	<i>2.8</i>
Unemployment rate				
	2011	2012	2013	Longer run
<b>Central Tendency</b>	8.8 to 9.0	7.6 to 8.1	6.8 to 7.2	5.0 to 6.0
<i>November projections</i>	<i>8.9 to 9.1</i>	<i>7.7 to 8.2</i>	<i>6.9 to 7.4</i>	<i>5.0 to 6.0</i>
<b>Range</b>	8.4 to 9.0	7.2 to 8.4	6.0 to 7.9	5.0 to 6.2
<i>November projections</i>	<i>8.2 to 9.3</i>	<i>7.0 to 8.7</i>	<i>5.9 to 7.9</i>	<i>5.0 to 6.3</i>
<b>Memo: Tealbook</b>	8.9	7.8	7.0	5.2
<i>November Tealbook</i>	<i>9.0</i>	<i>7.9</i>	<i>7.1</i>	<i>5.2</i>
PCE inflation				
	2011	2012	2013	Longer run
<b>Central Tendency</b>	1.3 to 1.7	1.0 to 1.9	1.2 to 2.0	1.6 to 2.0
<i>November projections</i>	<i>1.1 to 1.7</i>	<i>1.1 to 1.8</i>	<i>1.2 to 2.0</i>	<i>1.6 to 2.0</i>
<b>Range</b>	1.0 to 2.0	0.7 to 2.2	0.6 to 2.0	1.5 to 2.0
<i>November projections</i>	<i>0.9 to 2.2</i>	<i>0.6 to 2.2</i>	<i>0.4 to 2.0</i>	<i>1.5 to 2.0</i>
<b>Memo: Tealbook</b>	1.3	1.0	1.2	2.0
<i>November Tealbook</i>	<i>1.1</i>	<i>1.1</i>	<i>1.2</i>	<i>2.0</i>
Core PCE inflation				
	2011	2012	2013	
<b>Central Tendency</b>	1.0 to 1.3	1.0 to 1.5	1.2 to 2.0	
<i>November projections</i>	<i>0.9 to 1.6</i>	<i>1.0 to 1.6</i>	<i>1.1 to 2.0</i>	
<b>Range</b>	0.7 to 1.8	0.6 to 2.0	0.6 to 2.0	
<i>November projections</i>	<i>0.7 to 2.0</i>	<i>0.6 to 2.0</i>	<i>0.5 to 2.0</i>	
<b>Memo: Tealbook</b>	1.0	1.0	1.2	
<i>November Tealbook</i>	<i>1.0</i>	<i>1.0</i>	<i>1.2</i>	

NOTE: The changes in real GDP and inflation are measured Q4/Q4

Exhibit 3. Risks and uncertainty in economic projections

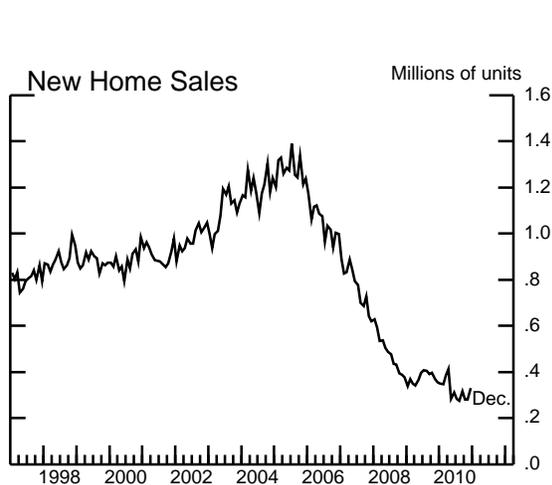


**Appendix 5: Materials used by Mr. Stockton**

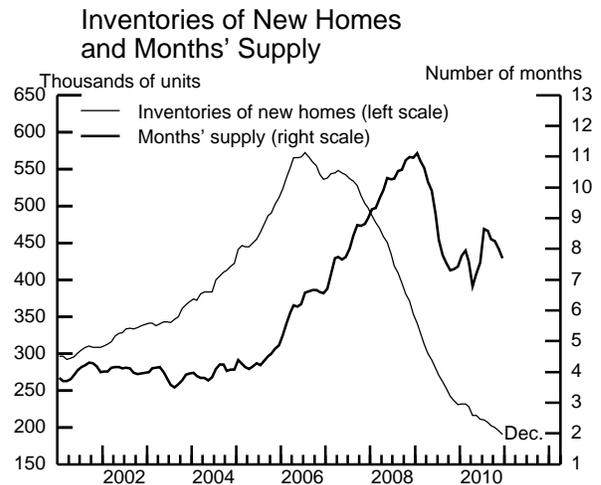
### The Market for New Single-Family Homes

	2010	2010			2010		
		Q2	Q3	Q4	Oct.	Nov.	Dec.
<b>Sales<sup>1</sup></b>							
Total	321	335	291	296	280	280	329
<i>Previous</i>			288		275	290	
Percent Change	-14.4	-6.9	-13.1	1.7	-11.7	.0	17.5
<b>By region</b>							
Northeast	31	33	31	23	30	20	19
Midwest	44	47	42	34	40	31	32
South	173	180	159	165	161	165	168
West	73	76	59	74	49	64	110
<b>Inventories</b>							
New homes for sale <sup>2</sup>	190	211	202	190	200	195	190
Months' supply <sup>3</sup>	8.0	7.9	8.5	8.0	8.6	8.4	6.9
<b>Prices</b>							
Mean (thousands of dollars) <sup>4</sup>	271.6	264.2	253.8	n.a.	253.4	278.6	293.7
Year-to-year percent change <sup>5</sup>	.3	-1.9	-7.6	n.a.	-5.2	3.4	4.3
One-period percent change (annual rate for quarters, monthly rate for months)	.3	-20.9	-14.9	n.a.	-5.8	9.9	5.4
<b>Constant-quality price index<sup>6</sup></b>							
Year-to-year percent change <sup>5</sup>	-.4	-1.1	-.1	-1.2	n.a.	n.a.	n.a.
One-period percent change (annual rate for quarters)	-.4	-9.7	.7	3.8	n.a.	n.a.	n.a.

1. Thousands of units, s.a.a.r., except where noted. Percent change is from previous comparable period, not at an annual rate.
  2. Thousands of units, seasonally adjusted, end of period stock.
  3. At current sales rate; expressed as the ratio of s.a. inventories to s.a. sales. Quarterly and annual values are averages of monthly values.
  4. Quarterly and annual values of mean prices are equal to a weighted average of monthly data; the weights are based on the response rate to the survey in each month. Seasonally adjusted by FRB staff.
  5. Year-to-year percent changes are from the year-earlier comparable period.
  6. Based on characteristics of new homes sold in 2005. Seasonally adjusted by FRB staff.
- s.a.a.r. Seasonally adjusted annual rate. s.a. Seasonally adjusted. n.a. Not available.  
Source: Census Bureau.



Source: Census Bureau.



Note: Months' supply is calculated using the 3-month moving average of sales.  
Source: Census Bureau.

**Appendix 6: Materials used by Mr. English**

**Class I FOMC – Restricted Controlled (FR)**

*Material for*

**FOMC Briefing on Monetary Policy Alternatives**

**Bill English**  
**January 26, 2011**

Class I FOMC – Restricted Controlled (FR)

**DECEMBER FOMC STATEMENT**

1. Information received since the Federal Open Market Committee met in November confirms that the economic recovery is continuing, though at a rate that has been insufficient to bring down unemployment. Household spending is increasing at a moderate pace, but remains constrained by high unemployment, modest income growth, lower housing wealth, and tight credit. Business spending on equipment and software is rising, though less rapidly than earlier in the year, while investment in nonresidential structures continues to be weak. Employers remain reluctant to add to payrolls. The housing sector continues to be depressed. Longer-term inflation expectations have remained stable, but measures of underlying inflation have continued to trend downward.
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. Currently, the unemployment rate is elevated, and measures of underlying inflation are somewhat low, relative to levels that the Committee judges to be consistent, over the longer run, with its dual mandate. Although the Committee anticipates a gradual return to higher levels of resource utilization in a context of price stability, progress toward its objectives has been disappointingly slow.
3. To promote a stronger pace of economic recovery and to help ensure that inflation, over time, is at levels consistent with its mandate, the Committee decided today to continue expanding its holdings of securities as announced in November. The Committee will maintain its existing policy of reinvesting principal payments from its securities holdings. In addition, the Committee intends to purchase \$600 billion of longer-term Treasury securities by the end of the second quarter of 2011, a pace of about \$75 billion per month. The Committee will regularly review the pace of its securities purchases and the overall size of the asset-purchase program in light of incoming information and will adjust the program as needed to best foster maximum employment and price stability.
4. The Committee will maintain the target range for the federal funds rate at 0 to ¼ percent and continues to anticipate that economic conditions, including low rates of resource utilization, subdued inflation trends, and stable inflation expectations, are likely to warrant exceptionally low levels for the federal funds rate for an extended period.
5. The Committee will continue to monitor the economic outlook and financial developments and will employ its policy tools as necessary to support the economic recovery and to help ensure that inflation, over time, is at levels consistent with its mandate.

Class I FOMC – Restricted Controlled (FR)

**JANUARY FOMC STATEMENT—ALTERNATIVE A**

1. Information received since the Federal Open Market Committee met in ~~November~~ **December** confirms that the economic recovery is continuing, though at a rate that has been insufficient to bring ~~down unemployment~~ **about a significant improvement in labor market conditions**. Household spending is increasing at a moderate pace, but remains constrained by high unemployment, modest income growth, lower housing wealth, and tight credit. Business spending on equipment and software is rising, though less rapidly than ~~earlier in the year~~ **in recent quarters**, while investment in nonresidential structures continues to be weak. Employers remain reluctant to add to payrolls. The housing sector continues to be depressed. Longer-term inflation expectations have remained stable, but measures of underlying inflation have ~~continued to~~ **been trending** downward.
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. Currently, the unemployment rate is elevated, and measures of underlying inflation are ~~somewhat~~ low, relative to levels that the Committee judges to be consistent, over the longer run, with its dual mandate. Although the Committee anticipates a gradual return to higher levels of resource utilization in a context of price stability, progress toward its objectives ~~has been~~ **remains** disappointingly slow **and there are still significant downside risks to the economic outlook**.
3. To promote a stronger pace of economic recovery and to help ensure that inflation, over time, is at levels consistent with its mandate, the Committee decided today to continue expanding its holdings of securities. ~~as announced in November.~~ **Moreover, in light of incoming information, the Committee now intends to increase its holdings of securities by a total of \$800 billion—\$200 billion more than announced in November—by purchasing longer-term Treasury securities at a pace of about \$75 billion per month through the third quarter of 2011. In addition,** the Committee will maintain its existing policy of reinvesting principal payments from its securities holdings. ~~In addition, the Committee intends to purchase \$600 billion of longer-term Treasury securities by the end of the second quarter of 2011, a pace of about \$75 billion per month.~~ The Committee will regularly review the pace of its securities purchases and the overall size of the asset-purchase program ~~in light of incoming information~~ and will adjust the program as needed to best foster maximum employment and price stability.
4. The Committee will maintain the target range for the federal funds rate at 0 to ¼ percent and ~~continues to~~ **currently** anticipates that economic conditions, including low rates of resource utilization, subdued inflation trends, and stable inflation expectations, are likely to warrant exceptionally low levels for the federal funds rate ~~for an extended period~~ **at least through mid-2012**.
5. The Committee will continue to monitor the economic outlook and financial developments and will employ its policy tools as necessary to support the economic recovery and to help ensure that inflation, over time, is at levels consistent with its mandate.

Class I FOMC – Restricted Controlled (FR)

**JANUARY FOMC STATEMENT—ALTERNATIVE B**

1. Information received since the Federal Open Market Committee met in ~~November~~ **December** confirms that the economic recovery is continuing, though at a rate that has been insufficient to bring ~~down unemployment~~ **about a significant improvement in labor market conditions**. **Growth in** household spending is increasing at a moderate pace **picked up late last year**, but remains constrained by high unemployment, modest income growth, lower housing wealth, and tight credit. Business spending on equipment and software is rising, ~~though less rapidly than earlier in the year~~, while investment in nonresidential structures ~~continues to be~~ **is still** weak. Employers remain reluctant to add to payrolls. The housing sector continues to be depressed. **Although commodity prices have risen**, longer-term inflation expectations have remained stable, ~~but~~ **and** measures of underlying inflation have been trending downward.
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. Currently, the unemployment rate is elevated, and measures of underlying inflation are somewhat low, relative to levels that the Committee judges to be consistent, over the longer run, with its dual mandate. Although the Committee anticipates a gradual return to higher levels of resource utilization in the context of price stability, progress toward its objectives has been disappointingly slow.
3. To promote a stronger pace of economic recovery and to help ensure that inflation, over time, is at levels consistent with its mandate, the Committee decided today to continue expanding its holdings of securities as announced in November. **In particular**, the Committee ~~will~~ **is** **maintaining** its existing policy of reinvesting principal payments from its securities holdings. ~~In addition, the Committee~~ **and** intends to purchase \$600 billion of longer-term Treasury securities by the end of the second quarter of 2011, ~~a pace of about \$75 billion per month~~ **[ which, given the quantity of purchases thus far, implies a pace of about \$80 billion per month ]**. **[**The Committee will regularly review the pace of its securities purchases and the overall size of the asset-purchase program in light of incoming information and will adjust the program as needed to best foster maximum employment and price stability. **]** The Committee ~~will~~ **continued its practice of** regularly reviewing **ing** the pace of its securities purchases and the overall size of the asset-purchase program in light of incoming information, and ~~will~~ **it remains prepared to** adjust the program as needed to best foster maximum employment and price stability. **]**
4. The Committee will maintain the target range for the federal funds rate at 0 to ¼ percent and continues to anticipate that economic conditions, including low rates of resource utilization, subdued inflation trends, and stable inflation expectations, are likely to warrant exceptionally low levels for the federal funds rate for an extended period.
5. The Committee will continue to monitor the economic outlook and financial developments and will employ its policy tools as necessary to support the economic recovery and to help ensure that inflation, over time, is at levels consistent with its mandate.

Class I FOMC – Restricted Controlled (FR)

**JANUARY FOMC STATEMENT—ALTERNATIVE C**

1. Information received since the Federal Open Market Committee met in ~~November~~ **December** confirms that the economic recovery is continuing, though at a rate that has been insufficient to bring ~~down unemployment~~ **about a significant improvement in labor market conditions**. **Growth in** household spending is increasing at a moderate pace **has picked up** but remains constrained by high unemployment, modest income growth, lower housing wealth, and tight credit. Business spending on equipment and software is rising, though less rapidly than earlier in the year, while investment in nonresidential structures continues to be weak. **and business investment is rising**. **However**, employers remain reluctant to add to payrolls **and** the housing sector continues to be depressed. **Although commodity prices have risen**, longer-term inflation expectations have remained stable, ~~but~~ **and** measures of underlying inflation have been trending downward.
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. Currently, the unemployment rate is elevated, and measures of underlying inflation are somewhat low, relative to levels that the Committee judges to be consistent, over the longer run, with its dual mandate. ~~Although the Committee anticipates a gradual return to higher levels of resource utilization in a context of price stability,~~ Progress toward **the Committee's** objectives has been ~~disappointingly~~ slow, **but there are some indications that the economic recovery is strengthening**.
3. To promote a stronger pace of economic recovery and to help ensure that inflation, over time, is at levels consistent with its mandate, the Committee decided today to continue expanding its holdings of securities. ~~as announced in November.~~ **However, in light of incoming information, the Committee now intends to increase its holdings of securities by a total of \$400 billion—\$200 billion less than announced in November—by purchasing longer-term Treasury securities at a pace of about \$40 billion per month through the second quarter of 2011.** The Committee will maintain its existing policy of reinvesting principal payments from its securities holdings. ~~In addition, the Committee intends to purchase \$600 billion of longer-term Treasury securities by the end of the second quarter of 2011, a pace of about \$75 billion per month.~~ The Committee will regularly review the pace of its securities purchases and the overall size of the asset-purchase program ~~in light of incoming information~~ and will adjust the program as needed to best foster maximum employment and price stability.
4. The Committee will maintain the target range for the federal funds rate at 0 to ¼ percent and continues to anticipate that economic conditions, including low rates of resource utilization, subdued inflation trends, and stable inflation expectations, are likely to warrant exceptionally low levels for the federal funds rate for an extended period.
5. The Committee will continue to monitor the economic outlook and financial developments and will employ its policy tools as necessary to support the economic recovery and to help ensure that inflation, over time, is at levels **[of 2 percent or a bit less, which the Committee judges to be]** consistent with its mandate.

Class I FOMC – Restricted Controlled (FR)

**JANUARY FOMC STATEMENT—ALTERNATIVE D**

1. Information received since the Federal Open Market Committee met in November **December** confirms that the economic recovery is continuing. ~~though at a rate that has been insufficient to bring down unemployment.~~ **Growth in** household spending is increasing at a moderate pace **has picked up** but remains constrained by high unemployment, modest income growth, lower housing wealth, and tight credit. Business spending on equipment and software is rising, though less rapidly than earlier in the year, while investment in nonresidential structures continues to be weak. Employers remain reluctant to add to payrolls. The housing sector continues to be depressed. **and business investment is rising.** **Measures of underlying inflation have trended lower in recent quarters and** longer-term inflation expectations have remained stable, but measures of underlying inflation have continued to trend downward. **commodity prices have risen noticeably.**
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. Currently, the unemployment rate is elevated, and measures of underlying inflation are somewhat low, relative to levels that the Committee judges to be consistent, over the longer run, with its dual mandate. Although the Committee anticipates a gradual return to higher levels of resource utilization in a context of price stability, progress toward its objectives has been disappointingly slow.
2. To promote a stronger pace of **support the** economic recovery and to help ensure that inflation, over time, is at levels consistent with its mandate, **the Committee will maintain the target range for the federal funds rate at 0 to ¼ percent and anticipates that economic conditions are likely to warrant low levels for the federal funds rate for some time.** **However, the Committee judges that a further expansion of its securities holdings is not necessary to support a gradual return to higher levels of resource utilization in a context of price stability.** Accordingly, the Committee decided today to continue expanding **discontinue the asset purchase program it** its holdings of securities as announced in November. **For the time being,** the Committee will maintain its existing policy of reinvesting principal payments from its securities holdings. In addition, the Committee intends to purchase \$600 billion of longer-term Treasury securities by the end of the second quarter of 2011, a pace of about \$75 billion per month. The Committee will regularly review the pace of its securities purchases and the overall size of the asset purchase program in light of incoming information and will adjust the program as needed to best foster maximum employment and price stability.
3. The Committee will maintain the target range for the federal funds rate at 0 to ¼ percent and continues to anticipate that economic conditions, including low rates of resource utilization, subdued inflation trends, and stable inflation expectations, are likely to warrant exceptionally low levels for the federal funds rate for an extended period.
3. The Committee will continue to monitor the economic outlook and financial developments and will employ its policy tools as necessary to support the economic recovery and to help ensure that inflation, over time, is at levels consistent with its mandate **promote maximum employment and price stability.**

Class I FOMC – Restricted Controlled (FR)

**January 2011 FOMC Directive — Alternative A**

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent. The Committee directs the Desk to execute purchases of longer-term Treasury securities in order to increase the total face value of domestic securities held in the System Open Market Account to approximately \$~~2.6~~ **\$2.8** trillion by the end of ~~June~~ **September** 2011. The Committee also directs the Desk to reinvest principal payments from agency debt and agency mortgage-backed securities in longer-term Treasury securities. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

Class I FOMC – Restricted Controlled (FR)

### **January 2011 FOMC Directive — Alternative B**

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to  $\frac{1}{4}$  percent. The Committee directs the Desk to execute purchases of longer-term Treasury securities in order to increase the total face value of domestic securities held in the System Open Market Account to approximately \$2.6 trillion by the end of June 2011. The Committee also directs the Desk to reinvest principal payments from agency debt and agency mortgage-backed securities in longer-term Treasury securities. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

Class I FOMC – Restricted Controlled (FR)

**January 2011 FOMC Directive — Alternative C**

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent. The Committee directs the Desk to execute purchases of longer-term Treasury securities in order to increase the total face value of domestic securities held in the System Open Market Account to approximately ~~\$2.6~~ **\$2.4** trillion by the end of June 2011. The Committee also directs the Desk to reinvest principal payments from agency debt and agency mortgage-backed securities in longer-term Treasury securities. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

Class I FOMC – Restricted Controlled (FR)

**January 2011 FOMC Directive — Alternative D**

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent. The Committee directs the Desk to ~~execute purchases of longer-term Treasury securities in order to increase~~ **maintain** the total face value of domestic securities held in the System Open Market Account ~~to~~ **at** approximately \$2.6 ~~\$2.6~~ **\$2.2** trillion ~~by the end of June 2011. The Committee also directs the Desk to~~ **by** reinvest**ing** principal payments from agency debt and agency mortgage-backed securities in longer-term Treasury securities. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.